9.

ON

STAMMERING,

AND

ITS TREATMENT.

BY

Henry Monro,

BACC. MED. OXON.

LONDON:

JOHN CHURCHILL, PRINCES STREET, SOHO.

1850.

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INTRODUCTORY REMARKS

IMPORTANT TO MY NON-MEDICAL READER.

THERE are three classes of readers who will view this Essay under three different aspects,—1. Those who stammer, and their friends; 2. Medical men; 3. Cursory readers, who may meet with it but have no particular interest in the matter treated of. From the last class I expect that they will only look at it, and finding difficult and technical terms, lay it down again, as not sufficiently interesting to explore it further. But from the two former I hope to have different treatment, and have accordingly tried to accommodate myself to both: in doing this, however, my course is between Scylla and Charybdis, for by the one party this essay may be esteemed too technical and too unintelligible, while by the other it may be viewed as not succinct and scientific enough. I must, however, run the hazard, though "incidit in Scyllam qui vult vitare Charybdim" may be my lot; as my great object is to be useful to the stammerer; and I feel I cannot be so *thoroughly*, unless I both address myself to his own understanding, as well as conciliate the attention and interest of those who are alone able to further my intentions,—namely, enlightened scientific men. But these remarks are particularly addressed to the stammerer. I believe most assuredly that, if I may but gain his confidence, he will do his best to understand me, however unintelligible my diction may be; and in order to assist him I would say, "you will find the third chapter much easier than the first and second, and the first more intelligible than the second; so if you are very much puzzled, you can but read the third chapter first, and this may encourage you to the study of the whole." Also, ask some medical friend to explain terms

which may appear novel,—such as primary and secondary symptoms, proximate, ultimate, motor, reflex, complement, element, abnormal, &c. &c.; besides such terms as fauces, larynx, glottis, &c.; some of which, by the way, are explained in note, page 4.

But there is one thing which may strike an inexperienced reader which I must take upon myself to observe upon; and I do so because I recollect how certain propositions struck me when I began to study the influences of mind on matter. You will find in this essay such expressions as "mental force of the will acting on the accumulated nervous motor force;" as "motor fibres being laid out for the will to work upon, like the keys of a pianoforte before the player," &c. &c. These, and similar ideas, medical men are so accustomed to, that they can hardly explain themselves without employing them; but they may seem at first sight to simple and religious minds something like tampering with things man has no right to investigate, and materialising spiritual influences. If I, or any one else, tried to explain what the mind and will were, or how they actuated organism, such as the power of motion (which we may call simply physical, since it acts independently of mind and consciousness, and even for some time after animals are dead), I should be, indeed, trenching on what man cannot explain, and in my opinion had better leave alone: but all I have said amounts to this,—namely, that experience, strict investigation, and analogy, have educed certain facts, which were hidden from our common or special senses, but which are after all only of a kindred nature with other things which common observation makes manifest even to a child. For instance, if I say that one part of the brain seems to be particularly allotted as the instrument of the mind more than another part, this is no more than another person saying that he believes the brain generally to be the instrument of the mind. Again, if I say that the will can only operate on the organism of motion at one or more points, this is no more materialistic (in the bad sense of the word) than saying that the will causes the arm to move; the one is the

result of ordinary sight, the other of deeper investigation; the one is more general, the other more specific; but both are of the same kind, and it is a simple want of comprehensiveness of mind to feel the contrary.

If I have used expressions in this essay which may hardly seem warranted, even with this apology, I must beg to have them attributed rather to looseness of expression on my part (a looseness which medical men too often fall into), than to the fact of their possessing any real weight or importance in themselves. As, for instance, if I have called the operations of the mind "a nervous function," I simply mean that nervous agencies are employed in their manifestation, &c.: when I use such an expression as follows—"ideas originate in the brain and are arranged in succession by that organ,"—I simply mean that the brain is the instrument of the mind; the nervous system certainly being that part of our frame by which mind acts on matter.

These observations may seem without meaning, if not wholly out of place, to some (and if this were a simply medical work I should esteem it so), but I know well how things of this nature strike others, from the simple effect of their *novelty*.

Should my reader not immediately apprehend that condition of the will which (on occasions) has not power over motions which are usually subject to it, I would adduce, as an easily recognisable illustration, the feelings of a person in nightmare: he feels a perfect consciousness of a cause for moving, a strong wish to move, a consciousness that his limbs and his frame generally are all perfect, and yet an inability to make these processes work on one another: indeed, this sort of inability sometimes exists in the waking state,—as in the case of horror, &c. Now the state of mind in some stammerers about the power they possess over speech, is occasionally like this feeling of incubus in nightmare, and probably from a similar cause; for which I refer to note 2, page 28.

In conclusion I must say, that to my non-medical reader I fear

I may seem to have criticised an individual for whom I have the most profound respect somewhat inconsiderately. I hope, however, that Dr. Arnott will not think (should he fall in with these pages) that I have exceeded my privilege as a brother physician, in what I have said of his system; for, added to the fact that I heartily join in doing honour to his well-known reputation, I have *great reason* to value his observations on stammering. I would, however, remind my reader that the very reason why I have placed his name first, and criticised his system so much, is, that feeling it to be so full of merit I am the more bound to find out why it does not always succeed; and having reason to believe that I have had even better opportunities than Dr. Arnott *could* have had of forming an opinion on nervous stammering, I must say, that while I should feel proud to follow his guidance in science generally, at a humble distance, I should not do justice to my subject, and I must add, to my experience, if I did not criticise him with an unfettered mind. On this head, too, I regret that I am unable to alter one or two words which might, I fear, be misunderstood, and which did not attract my notice until this pamphlet was printed.

Vide Cases given at page 54.

Having this opportunity, I will insert here one more remarkable instance (in addition to those in my Essay) of the strong effect of mental emotion in stammering, and the instantaneous result of removing this emotion: witness the case (not infrequent, I believe) of a stammerer who can read a letter which he cannot easily decipher, better than text which is perfectly legible: why should this be? We should imagine at first that the illegibility would increase hesitation; but no, it removes it. The cause of this is, that the stammerer feels immediate relief by being able to make obvious to the listener that the cause of his impediment is an ordinary one, namely, illegibility; and this excuse is sufficient to remove his anxiety about hesitation generally.

PREFACE.

I MUST address a few words to my reader, as an apology for many faults in style in this pamphlet.

In the first place, it has been written during a period of two years, laid by for many months at different times, and then taken in hand again, and that without a sufficiently decided intention of publishing it.

In the second place, the subject is very intricate, as its *root* seems to lie in that mysterious region which we may call the neutral ground of mind and matter. And although I have been long in coming to conclusions on the subject, and my evidence is the result of many years' reflection, yet when I took in hand to write on the matter I found occasion very frequently to correct and remodel what appeared plain to simple thought, but what became imperfect when subjected to the more analytical test of writing.

I will add (at the risk of repeating what I have said in the Essay), that I can easily believe that many things which I have stated with regard to the sensitiveness of the stammerer may

seem exaggerated to the ordinary reader, and even to some stammerers; for I am aware that my study of the complaint has been where great sensitiveness has been manifested. From the nervous and sensitive stammerer, therefore, can I alone expect a full acknowledgment of the accuracy of such remarks.

BACC. MEDICINÆ OXON.

CONTENTS.

CHAPTER I.

A REVIEW OF PLANS ALREADY PROPOSED.

Introductory remarks on the anxiety which stammering occasions.—Anxiety about stammering, and consequently stammering itself, increased by failure of success in methods of treatment.—A review of some of the plans which have been proposed for the cure of the affection, and how far they are useful.—Dr. Arnott's plan, good as an auxiliary, but not equal to curing in many cases.—Plan of the stream of sound useful when moral agencies will allow of its adoption.—Plan on the principle of due inflation of the lungs, good in every way as far as it goes.—Plan on the principle of altering letters, good if used successfully as a little artifice, but hurtful if persisted in without immediate relief.—Reading and recitation alone, good only as it affects habits and associations.—Elocutionists' plan, prejudicial to nervous stammerers. 1

CHAPTER II.

ON THE CAUSES OF STAMMERING.

Plans proposed not equal to the case, because grounded on partial views of pathology.—On the ultimate cause of this affection.—History of stammering connected with history of speech: four distinctive processes or elements of speech.—The point among these at which stammering originates: not the first or fourth, nor the second, but the third; the fault probably arising only from infirmity of structure.—Theory more fully explained, by shewing when the mental phenomena of the disease step in.—Two influences now at work.—What proportion do these two influences

(namely, original physical defect and acquired mental affection) bear to one another?—Impossible to decide in each case, yet two manifestly different classes arise from the predominance of the one or the other influence.—Comparison of these two classes, and summary.—On proximate causes of stammering.—On spasm. Whence does it arise? What is its course or history?—On habits and associations.—On congestion of blood to parts.—On circumstances facilitating the appearance of the affection; sex, want of melody in national language, education, temperament. ... 21

CHAPTER III.

ON THE TREATMENT OF STAMMERING.

Remedies divisible into moral and physical—some cases require one more than the other.—On physical remedies: 1. Inflation of lungs; 2. Dr. Arnott's plan and stream of sound; 3. Omitting letters; 4. Freedom of lower jaw; 5. On tricks; 6. On reading and recitation; 7. On elocution.—On moral remedies, and restoring the disturbed equilibrium between the moral and physical energies required to effect speech.—On diminishing the undue preponderance of the moral influences by, 1. Abstraction of the mind from stammering; 2. Not unnecessarily exciting mental emotion; 3. Eluding sources of mental emotion; 4. On raising physical energies by improved health and invigorating associations.—Concluding remarks on viewing the mind as a collection of minute particles which are to be gradually improved and set right. 45

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My attention having been much directed for some time to that most trying affection of the nervous system, namely, Stammering, and feeling that the subject has not yet obtained that consideration it deserves, I am induced to publish the result of my reflections and experience on this matter, with the two-fold hope of being instrumental in attracting the attention of scientific men to it, and of pouring comfort and strength into the

too often harassed and depressed mind of the person thus affected.

Introductory remarks on the anxiety which stammering occasions.—It may seem to the ordinary reader, that the terms harassed and depressed which I have applied to the state of mind of the stammerer are strong and exaggerated; but I freely invite the criticism of any persons thus affected, and ask them whether these words are at all out of place, or whether, indeed, they are not weak in comparison to the epithets which might frequently be applied. The cause of this exaggerated state of feeling is easily explicable from the circumstance that the disease is so intimately a nervous disorder, and consequently so much out of the direct and tangible grasp of the sufferer, that he is inclined to believe himself to be at the mercy of an influence which he feels to be impalpable.

Little, in comparison, does a man care for a difficulty when he has any reasonable hope that he may finally subdue it, and is able to see round it; for this is to an energetic mind what the powerful oppressor was to the gallant knight of old, an object of welcome rather than of dread, for he knew him only as the means of trying the goodness of his cause and the weight of his sword: but to deal with such an unassailable foe as stammering, is wont to raise fears and hesitation such as the same good knight would have felt when contemplating an encounter with a ghostly phantom before whose imaginary presence his heart would quail, and his weapon fall powerless from his hand.

Anxiety about stammering, and consequently stammering itself increased by failure in schemes of cure.—That which, however, has greatly tended to aggravate the bitterness of this affection has been the disappointment arising from the failure of those who have with unfounded confidence professed their ability to cure this complaint. The argument constantly in

the mouth of such people* (however various their methods may be) is—adopt such or such a system, and the disease will abate; continue in it, and it will be cured: and this is uttered too often with a very imperfect knowledge of all laws of pathology—the one great and practical error in their plans being, that the very anxiety to follow continually *one peculiar or circumscribed* plan, in the end too often augments the nervous excitement of the sufferer, and thus increases the malady. The following I believe to be a fair representation of what occurs in many of these cases: at first (perhaps in the first week or fortnight), the patient feels that he is cured; he has placed a blind faith in the process, and as long as this faith has been untried by failure, all is well; the novelty is most refreshing, and his heart is filled with gratitude towards his instructor. At the end, however, of a short period, the novelty is gone, and some nervous position causes his dreaded affection to reappear: from that moment his faith begins to waver: he says, "I am not cured;" he cannot keep up a blind faith: and who can be surprised that a person so nervously agitated is unable to do so, when he finds the system which he trusted thus failing him daily more and more, his hopes thus blighted, and his despair of help greater than ever?

I have not, however, entered upon the subject of stammering with the intention of presenting my reader with a sketch of the distress it occasions, or with the view of censuring individuals who have offered fallacious remedies, but with the hope of being able to explain the opinions which experience and reflection have

* Let me warn my reader against two practices which some stammering doctors have recourse to, namely,—1. The paying a large sum of money as a premium before the cure is attempted; 2. Swearing to secresy on the subject of the treatment to be employed; for independently of the manifestly unjust nature of these methods of proceeding, they put the stammerer terribly at the mercy of the person to whom they commit themselves. This course of conduct would not long be allowed to continue if the subject of stammering could obtain proper and enlightened treatment.

caused me to arrive at on the nature and treatment of this affection. I must commence, however, this treatise with the declaration, that my observations and reflections on stammering especially apply to those who are sensible *that their complaint is a nervous affection;* in other words, to those who do not stammer, or stammer very little comparatively, when alone, and perfectly free from the anxiety occasioned by observation. Within this class will be included the greater number of stammerers with whom I am acquainted, though I do not say that there are not stammerers whose defect may be at all times the same, whether alone or in company; and indeed I believe (as will be seen hereafter, when I classify stammerers) that there are some who approach this standard much nearer than others.

Plans already proposed for the cure of stammering.—Before I enter upon what I believe to be the proper view of most cases of stammering, I would pass in review various remedies proposed by scientific men which are well deserving of attention, but which are too often inadequate to what they propose, since they are founded on only a partial view of the nature of the complaint.

*Dr. Arnott's plan.**—I wish to be cautious in criticising

* As Dr. Arnott's, and many of the following methods, are grounded on anatomical considerations, it is necessary, in order that my non-medical reader may comprehend what is proposed, to give him a slight sketch of the mechanism of the organs by which speech is effected. I put this in a note, in order to save my medical reader the digression.

The physical apparatus required for articulate speech is a machine by which we may create sound, and the means of modifying this sound by affecting the calibre of parts of this machine. The sound here mentioned is usually termed voice, and the modification of it articulation; speech is, in fact, a peculiar mode of expiration after an inspiration slightly increased by voluntary effort, which expiration is checked and modified by various coercing powers: it is not a strong expiration through a flaccid tube, for this would terminate only in what we denominate a sigh; neither is it only a strong expiratory act through a tube rendered rigid by muscular action (and consequently subject to vibratory sound when the air is driven through it), for this would only effect a roar or whistle. But articulate speech is much more than either of these; it is much more complicated and

Dr. Arnott's system, because I believe his remedy has been the means of curing many slight impediments, and of relieving many of a severer character; but it is necessary to show wherein I think

elaborate; the basis of fluent speech is, indeed, of the nature of a roaring sound, but it is a sound continually diversified by a great number of little agents, all and each dependent on their own nervous stimuli. In order to give some clear idea of the mechanism of speech, it will be advisable to take as an example some artificial machine whose apparatus can easily be examined, and which in some degree resembles the structure of the organs of speech; perhaps among the best of these is the old analogy of the bagpipes. The various sounds of the bagpipe are effected thus:—A bag is screwed on at the extremity of a pipe or tube, the bag is filled with air blown into it through another tube, and this air is again forcibly expelled through the first tube; the passage of air through this first tube causes the blast of sound: the variety of the notes is caused by pressure of the fingers on holes in the side of this tube placed at various distances from the bag, or source of air. Now, in the human frame the lungs hold the place of the bag filled with air, the expiratory tube is represented by that elongated cylinder stretching from the lungs to the aperture of the mouth at the lips (which is all one tube of various diameters, though it is called in one place trachea, in another larynx, fauces, mouth, lips, and so on; the cavity of the nostrils, though diverging from this tube, making only, as it were, a bifurcated extremity to it), and the sound of the voice is caused by a blast of air driven from the lungs through this tube after it has been rendered rigid and vibratory by muscular action. The variety and modification of sound is not produced in this human tube by pressure upon holes in the sides of a rigid pipe, as in the case of the bagpipe, but by pressing in the sides of the tube, and in various ways altering its form and position—the tube being flexible, and capable of various modifications of calibre; for though there is not the power of applying fingers around this pipe, there are muscles of various sizes and capacities all along its extent, which perform in a much more delicate manner the part which the fingers do to the bagpipe. So far, if we allow for the different modes of modifying the sound, the analogy of the bagpipe is pretty good; but the sound made by air rushing through a tube, and modified by pressure, is not sufficiently elaborate alone to effect the variety necessary for the notes of the human voice; therefore two filaments, or cords, are stretched across the human tube about the mid distance of its course; these filaments are extended in that part of the tube called the larynx, and upon these (when they are rendered tense by muscular action) the air vibrating as it rushes along gives the apparatus the properties of a stringed as well as a wind instrument. There are muscular fibres, also, which have the power of shortening and elongating these cords, and thus effecting the variety from low to high pitch, in the same way as the hand, by pressing on harp-strings, affects their notes. It is sufficient here to speak of these

it deficient, because my experience induces me to believe that if it is looked upon as a panacea, and consequently insisted upon in all cases, and amongst them in very nervous cases, where *success does not immediately result from the system* it may only cause the substitution of one sort of stammering for another, and that perhaps of a worse kind than the original stammer.

I consider Dr. Arnott's view to be excellent and practically true in very many cases, but still imperfect when applied to stammering in all its modifications. I will therefore show, as briefly as I can, why I think it imperfect.

chordæ vocales as if they were two free cords stretched across the area of the tube, though in fact they are free only on one side, and attached by a membrane on the other to the side of the tube. I will now only refer briefly to that peculiarly constructed part of the human speaking-tube called the glottis: it lies immediately above the chordæ vocales, and behind the tongue: it is most delicately sensitive in its nature, and the least irritation will cause the glottis to close; or, in other words, the sides of this part of the cylinder are drawn in together, and thus prevent all transit of air; moreover, there is a valve over this glottis called the epiglottis, which, to render the obstruction doubly sure, is drawn down over the glottis when anything irritates the parts: these muscular closures are the means of preventing anything from passing down into the windpipe from the mouth which ought to pass through the œsophagus, or tube for food leading into the stomach, and their rapid spasmodic action forms part of the history of choking. At the angle where the human speaking-tube bifurcates (the one branch leading through the nose, the other through the mouth), there is a muscular membrane called the velum palati, which, according to the impulse of nervous stimuli, can be drawn across the one or the other aperture; for some intonations, when nasal sound is wholly excluded, this curtain is drawn upwards across the back of the nares or nostrils, while for others where nasal sounds are required, space is left for some of the expiration to pass through the nose. The parts towards the external opening of the mouth are more known to the casual observer; such as the cheeks, with their peculiar motion, the tongue, teeth, lips, &c. This is, I am aware, a very bald and loose account of the anatomy of these parts, but I wish only to place a simple view of the apparatus before the mind of a stammerer who is utterly ignorant of his own formation. The production of speech may be said to be partly a physiological, and partly a mechanical process; it is physiological so far as all muscular exertion to put the apparatus into proper action is concerned, but it is simply mechanical as regards the actual sounds produced as the result of all these motions.

First,—Dr. Arnott is shallow in tracing the ultimate causes of stammering.

Secondly,—Though inclined to believe that Dr. Arnott is correct in what I understand to be his view of proximate causes, I do not feel *certain* that he is not too confined in this view.

Thirdly,—Some imperfection or other makes his remedy too often an insufficient one when applied to such cases as I am now particularly addressing myself to. This imperfection is connected with the want of appreciation of the ultimate causes of stammering: it may also be connected with a too confined view of the proximate cause.

First,—The only attempt at tracing the ultimate cause of this affection is contained, I think, in the following sentence: "There are some, as stutterers, who owing to a naturally weak or irregular association, or to some accident in early life which has strongly affected their nervous system, retain defects which no ordinary teaching can correct."

On the supposition that the word association here used means only power over associated movements, I will ask Dr. Arnott, how can the charge of irregularity in associative power apply to a stammerer who can speak with the most perfect fluency, if only he is not subjected to the observation of others? Will he apply the second supposition to this class, and say their stammering is owing to an accident in early life which has affected their nervous system? If he means to include in this word "accident" such influences as hereditary predisposition, a peculiar idiosyncrasy involving a natural tendency to spasmodic affections, which spasms are wont to be excited and set at rest again by moral causes, and a peculiar sort of mind which is prone to dwell with morbidity on all its sensations, then I agree with him: but if he means by the expression, a violent shock of any kind, or a succession of such shocks, I see no reason to believe that this occurs to stammerers generally, and in the cases I am best acquainted with I am aware that this has not happened.

Secondly,—I think it questionable whether Dr. Arnott has

not made too much account of one proximate cause of stammering, namely, the spasmodic closure of the glottis, which occasions suppression of voice; and too little of another, namely, spasmodic action of the fauces and mouth, which occasions impeded articulation.

Upon this head I cannot speak with confidence for these two reasons: In the first place, I cannot make out from Dr. Arnott's book whether he *ever* allows of the existence of primary spasm in the fauces and mouth as a cause of stammering, or whether he does not think this spasm *always* to be secondary to spasm of the glottis. Secondly, whatever Dr. Arnott's view may be, it is very difficult, with the greatest observation, to settle this matter. I will dilate a little on these two points.

1st. I am uncertain of Dr. Arnott's opinion, because,—On the one hand, he seems to believe in the occasional existence of primary spasm in the mouth and fauces, when he says that the most common case of stuttering does *not* arise from this source; for such a sentence infers the belief that sometimes, though rarely, it does so arise: again, he has formed a scale and rules for articulative defects, which would also seem to infer a belief in the existence of primary irregular action in the parts which effect articulation (namely, the mouth and fauces); unless, indeed, he may think it impossible, in practice, to separate vocal resonance from vocal modifications of resonance, or voice stammer from speech stammer. On the other hand, my reason for thinking that he does not believe in the existence of primary spasm in any part but the glottis arises from his very strong language on this point. I will repeat his words: "Now the glottis during common speech need never be closed, and a stutterer is instantly cured if, by having his attention properly directed to it, he can keep it open. Had the edges or thin lips of the glottis been visible, like the external lips of the mouth, the nature of stuttering would not so long have remained a mystery, and the effort necessary to the cure would have forced itself upon the attention of the most careless observer." From

this passage, therefore, I may at least believe that Dr. Arnott's opinion is, that the rule is, "primary spasm is only at the glottis; it is the exception when elsewhere."

2dly. Whatever his view may be, it is very difficult, even with accurate observation, to be certain on this point, for though it is clear that spasmodic action is continually occurring in the mouth and fauces, yet it is difficult to say that this is not secondary to a preceding spasmodic closure at the glottis. Or in other words (to explain this sentence further), it is difficult to say,—whether the convulsive movements which we observe going on in the fauces and mouth may not sometimes arise from an inherent inclination to spasm in themselves, and dependent on no other wrong action elsewhere; or—whether these actions are not always a useless endeavour to effect by the movement of other muscular groups that which the wrong action at the glottis has suppressed; an endeavour which sometimes (and most commonly) seeks to effect its object by exaggerating the action of that part of the mechanism of speech which is most under the will, namely, the fauces and mouth, but which sometimes will seek its object by *action* of any sort, even of parts quite unconnected with speech—such as the hands and feet; with the view, as it were, of spending anywhere it can the nervous energy which has been restrained. But to return to the question. On the one hand it may be said, A. or B. is not deficient in vocal resonance; he utters good expiratory sounds; he is not stopped till he comes to particular articulations: he manifestly, therefore, suffers from only spasmodic action of the parts concerned in articulation. But, on the other hand, it will be said, you cannot be certain that immediately before the hesitation was manifested in the mouth the glottis had not closed. The various processes of speech are so instantaneous on each other, that it is only by anatomical knowledge that we even know one process must precede another; the spasm, therefore, of the one part and of the other is likewise instantaneous upon each other, and this is the reason why even a stammerer himself

cannot be certain upon this head. But it will be said, test your theories by a practical remedy suited to obviate this spasm of the glottis; and having dilated the glottis, see whether fluent speech will not flow out.

And this brings me to my third objection to receiving Dr. Arnott's remedy *as a panacea;* namely, that it is not equal to contend with the affection in some stammerers, and particularly in such as I am now addressing. Dr. Arnott's well-known remedy is to dilate the closure of the glottis by some little auxiliary expiratory sound, whenever an obstacle to free speech occurs,—such a sound as is made by the *e* in the word "berry;" I will call this, for brevity sake, the *er* sound. This sort of assistance to fluent speech is one which slow speakers (who do not stammer) are constantly in the habit of employing almost unconsciously, in order that fluent sound may be continued while they are arranging their thoughts, and that they may not appear to have ceased speaking. It is, therefore, unobjectionable on the charge of peculiarity; moreover, it is very simple, and therefore would appear practical. How is it, then, with stammerers when they use this sound? With many stammerers I know it to be of the greatest service; and I will take this opportunity of saying that though I think his remedy no panacea, yet I believe that stammerers owe more to Dr. Arnott than to any one who has written on the subject. In these cases opening of the glottis seems to remove all difficulties; speech flows, words come rolling out after each other like stones out of a cart when the backboard is removed. This would be convincing, were it not that in other instances this is not the case; for in bad and nervous stammerers who endeavour to use this remedy, there results only a repetition of the sounds *er, er;* the wished-for words will not flow, the very thought of the words is enough to cause spasmodic action of the articulative muscles (either primary or secondary): the stammerer knows this, and he will not attempt them; he also knows that if he goes on singing out *er, er, er,* he will only run into another

form of hesitation, perhaps worse than his own. Whence does all this arise? It may arise from spasmodic action of the articulative muscles which supervenes, though there is no previous obstruction at the glottis; if it does, then Dr. Arnott has hardly sufficiently recognised this proximate cause; but, as I have said above, I consider his view on this point the most probable generally. But *this I am certain of*, that it does often arise from ultimate causes of stammering, which Dr. Arnott has not recognised as he ought to have done in his history of stammering. In such cases as these, the great deficiency of Dr. Arnott's view of the case is,—that he looks on the stammerer and his organs of speech too much in the light of an ordinary piece of mechanism; he seems to forget that moral as well as physical influences are essentially connected with speech;—that these interfere with the proper working of each other, if either of them is in great excess over the other; and that the flow of articulated sound, each sound bearing its own meaning, by which one man is able to hold communion with another, requires for its right agency a moral command over an instrument which in the stammerer is already disarranged by morbid nervous action. When he tells the nervous stammerer to hum or drone out his words like a stream of water flowing, he forgets the opposing influence to this soothing remedy, namely, the anxiety to be understood, which in the stammerer has been driven into a most morbid dread that he shall not be understood, and which dread itself causes convulsive action in a person already predisposed to it. If Dr. Arnott, at the same time that he proposes a physical remedy to the physical defect which obstructs the stream of fluent sound essential to fluent speech, had also proposed an efficient remedy to the moral obstruction, namely, morbidly anxious thought on the subject of speech, occasioned by the memory and associations of the past, most probably his remedy would have been nearly perfect, and as successful in all cases of stammering, after a little practice, as it is now successful in cases where mental influences offer no difficulties.

Plan of stream of sound.—This leads me to speak of another mode adopted for keeping up the stream of sound. The object is similar to that of Dr. Arnott's plan (though it is arrived at in a different manner) and open very much to the same imperfections. There is no little auxiliary sound interposed between words and sentences, but fluency is to be ensured by a system of doubling all vowel sounds, and gliding over or omitting all articulative obstructions, such as consonants present, (particularly such as have occasioned stammering,) as well as practising a half-singing monotonous tone, somewhat on the principle of a roaring sound.

The basis of fluent speech certainly is a monotonous roaring intonation: you may prove this by listening to people when talking at a distance from you: you are too distant to catch the articulative variations and the more elaborate mechanism of speech, you are only aware of the more general element, which is the expiration of air through a rigid tube. This roaring sound is to speech what light and shade and general outline are to a beautiful picture; you can see these parts of a picture at a distance, but the highly worked out details require a more close inspection. Granting that the basis, and consequently the most essential part of fluent speech, is a monotonous stream of sound, yet perfect speech is much more than a stream of sound: a monotonous stream of sound, or roar, is a simple, unique, and easy thing, requiring one attention of the mind, and only one, which is, to keep up one peculiar sound: there would be but little chance of nervous hesitation occurring if speech was thus simple; any man could utter one sound fluently as long as his breath would allow him to do so, and if his trachea is clear from obstruction; but a man knows that a monotonous sound will not act as a substitute for speech, and *shame will not permit him* to make the effort. In speaking we have not only to keep up fluent sound, but to modify it in hundreds of ways in a minute, each syllable requiring various inflexions of voice, which inflexions are arrived at gradually, through means of the instinctive influence of imitation, in early youth; but

which, individually, are not, and could not well be, objects of conscious thought in advanced life, when speech has been learnt, and the chief effort which remains is naturally about what a person is saying, and not how he is to say it. This natural alteration of the condition of a man is alone sufficient to make it almost impossible to think chiefly about keeping up sound in the abstract while speaking. A child may dwell upon the accomplishment of the word *pa-pa;* but how can a grown man keep his thoughts on the mechanical processes of speech when the propensity to intelligent thought has taken the place of the propensity to imitation? A person of a strong but not very sensitive mind may be able to read a book in this way for a time, but how can he converse pleasantly when his attention ought to be fixed upon what he is saying, and not upon how he effects the utterance of speech? And it is well for a man that his attention is drawn off from thinking about how he speaks by thinking of what he speaks, for I believe it to be ruinous to a person thus nervously affected to be always thinking about how he speaks; *this is, in my opinion, one of the greatest aggravations of this disease,* an aggravation but too often following some methods adopted for its cure, and particularly the elocutionist's plan. The relief in abstracting the mind from the mode of utterance to the subject uttered is strongly exhibited in the circumstance of most stammerers being able to talk better than they can read, for in the former case the mind is pre-occupied, while in the latter it is more at leisure to think over the difficulties to be overcome; the degree of abstraction of mind requisite for spelling and forming the words not being sufficient to occupy the whole attention.

I would say in a few words that if either of these methods is able to be adopted with success on occasions in an easy and agreeable manner, a real step has been gained towards overcoming the affection; but if the sufferer is told to persist in uttering *er,* or to sing or roar out his words on all occasions, and trust to these as his infallible remedies, he will probably

fail, for the remedies are so much worse than the disease that all sensitive minds would instinctively shun them with horror, and despond the more in consequence.

Principle of cure founded on due inflation of the lungs.—A third means proposed is the due inflation of the lungs. This theory is grounded on the fact that stammerers are observed to inflate their lungs only partially when speaking; the accumulation of a good blast of air behind the organ of speech certainly assists, by its expulsion, in driving before it the impediments it will have to encounter. Inflation of the lungs being an instinctive preparative for speech, it might be asked, why need a person be desired to do a thing consciously which nature instinctively suggests, and which is generally an unconscious act? The answer to this is, that the stammerer has got into the morbid habit of *not* doing it unconsciously, therefore he must do it consciously. We need not think about the due function of a part as long as it is acting healthily; no one dwells upon the necessity of putting certain muscles of the loins and hip into action in order to effect the upright posture, until some affection has either partially or entirely paralysed the parts. The stammerer in most cases has, I believe, got into this bad habit from a paralysing dread of not being able to manage and articulate upon a good tide of voice; he unconsciously feels that he had rather make a small inspiration, because he hopes to be able to manage his little volume of air, during the expiratory act of speaking, with greater ease than he could a larger volume; added to this bad habit, the stammerer has generally fallen into another, namely, that of squeezing all the air out of his lungs while speaking, or, in other words, using that volume of air which should remain latent in the lungs, and which does so on all ordinary occasions.* Now the stammerer is not conscious

* There is a certain volume of air always existent in the spongy substance of the lungs, and the quantity inspired and expired at each breath forms only a small part of this volume; thus the whole volume of air in the lungs is not changed at each breath, but only such a quantity of it as is necessary to purify sufficiently

of the reasons why he has adopted these bad habits, but I believe he will generally be found to be conscious of acting in this way; he cannot be conscious of the rationale of it all, because he is ignorant of his own anatomy and physiology. I have little to say against this scheme, for I believe that it is founded on truth, and is calculated to remedy a great deficiency in the stammerer, and, *what is much more than this, it is a very simple matter, and most easily adopted;* the only comment which I will make is to charge the stammerer not to employ this remedy with the hope of eradicating by this means *alone* the affection he is suffering from, but chiefly with the prospect that by substituting a full breath for a small one, the stronger tide of air will of itself drive past some of the obstacles raised by nervous action, when a feebler expiration would be checked.

The principle of altering letters in speaking. — The system I am now about to mention is on a different principle, and partakes of the character of a happy trick rather than a scientific remedy. It is to substitute some other letter for the one at which hesitation occurs; this, though at first perhaps successful on the principle of novelty, would generally, I fear, at last produce a chaotic complication of stammering: for not only will hesitation commence at the original letter, but will continue also and pass into the one substituted (for this alteration would frequently not be resorted to until an impediment had arisen), and thus would a two-fold stammering

the whole volume by mixing with it. Now, the stammerer, in the expiratory process of speech, is not content with using the quantity of air which he inspired last, and then inspiring again, but he tries to continue speech after this volume is expired, and thus draws upon the volume which should remain latent; he does so in order to continue some degree of fluency, because he feels that, having once rendered the glottis patent, having once worked up a stream of articulated sound, he had rather trust to this bird in the hand than hazard a fresh expiratory process of articulation. In doing this, he causes his abdominal muscles to contract to the greatest possible extent; and this is the cause, I believe, of that peculiar pain in the epigastrium to which some stammerers are subject.

arise from the effort at the old and new letter; but should the stammerer have resolution enough to adopt the substituted letter without thinking of the original and real one, he would often find that the hesitation is transferred from the one to the other, for this method of cure is founded in ignorance of the pathology of stammering; the propounder of it seems to imagine that the organ of speech is inadequate to some certain inflexions of the voice, whereas the point in the speaking apparatus where a spasm arises (whether secondary or primary) and prevents fluency of speech is much subject to accident, associations, &c., and may easily change its position. If this enemy to fluent speech is driven out of one place, it will, I fear, too often appear somewhere else, for in this, as in its general nature, this affection very much resembles chorea, or St. Vitus's Dance. But I shall speak more at large on this subject when treating of the causes of stammering.

The principle of curing by reading and recitations.— The plans which I have hitherto mentioned are on the hypothesis of finding a mechanical antidote to a mechanical complaint: the one I am about to speak of depends upon the effect of altering associations by long habits of contrary associations.

It is often found to be the case with nervous stammerers that they can speak and read when alone with perfect fluency; also that they may soon get into the habit of reading and talking fluently before one individual who is fully in their secret (for stammerers, strange to say, are often wont to esteem their affection a sort of secret). Upon these facts is based the practice of effecting a cure by long habits of reading and reciting alone, or with this single friend. This plan so far is rational, and might be of much use if it were possible to conduct it systematically; but the great and too often insurmountable obstacle to this scheme consists in the fact that a much longer period and a much more systematic course of proceedings is requisite than is ordinarily within the power of any individual; a custom

of many years' standing has to be overcome, one too which by its having rendered the individual peculiar and unlike his fellows, has preyed upon his mind to a most remarkable extent; and to hope to be suddenly emancipated from such an incubus is as unreasonable as to expect the weakly to become healthy in a day. To have acquired the habit of reading before a few select people is of itself not much gain, unless it inspires confidence before strangers, which would, I fear, be seldom the case, since their presence would be a novelty still to be overcome; and yet it is impossible so to disarrange society, as to expect casual acquaintance to become instrumental in effecting a cure. For the success of this system it is manifest, therefore, that some scheme should be instituted by which a stammerer should gradually acquire, through changed associations, a complete power over his speech under all circumstances. Perhaps the formation of a school or college for curing stammering, in which there should be various classes for reading and writing under various degrees of publicity, and in an ascending scale, might succeed in some cases, though I doubt much if it would succeed in many, and not rather aggravate the affection; for many stammerers are so sensitive, that the very fact of being sent to reside with other stammerers, and thus set as it were apart from their usual associates, would so prey upon their minds, and so draw their whole attention entirely to the subject of stammering, that it might easily drive a slight impediment into a bad one. Persons having strong and elastic minds, however, might, I think, be benefitted by some well-organized scheme of this nature, as their fixed resolution to overcome their affection might render them comparatively careless of all other reflections, and the elasticity of health and high spirits carry them through difficulties insurmountable by less vigorous persons.

The plan of the elocutionist.—But connected with this educational plan is a method of cure which has, I believe, gained some celebrity from its apparently scientific basis, but which I think to be most dangerous to the class of stammerers I am now address-

ing, inasmuch as the professors of it seem to be unaware of the extremely nervous nature of at least many stammerers, and would attempt to teach speech over again in the same method that a person would teach music, or the combination of music and singing. They say, "he who has failed spontaneously to acquire the perfect association of the voluntary movements which are required in utterance, and who in consequence stammers, must be systematically taught to acquire it." They would thus make what ought to have been an intuitive natural effort of imitation in childhood, a work of anxious thought and laborious education in manhood. I subjoin here, in a note, a brief sketch of their system, which I have extracted from the "Penny Cyclopædia" (article Stammering), and to which* I must refer my reader if he wishes to know more about it, but from the practice of which I must earnestly caution him, unless his stammering is of a most simply mechanical nature. What I would say generally about this system is, that by fixing the attention, or rather trying to fix the attention of the stammerer so to the mode of uttering sounds and the mode of joining them together, you indelibly impress upon his mind the difficult and multifold complications of speech, so as to increase a hundred-fold his apprehensions of the impossibility of mastering his affection. It is not a simple plan easily acquired, such as inflation of the lungs, but you try to make him attend to the wrong action of individual muscles, or of muscles in groups, with the view of putting these muscles into right action, when, in truth, these muscles are some of them out of the direct control of the will; and when, if they are within it, you only increase the nervous spasm and the disorder of the associate movement by fixing the attention on their action. In order to understand the nature of stammering, we certainly should understand, as far as we can, elocution, and the muscular movements necessary for forming letters; but in treating this affection we

* Vide also Dr. Arnott's Physics, page 592.

must remember that mind as well as body is concerned. If stammering occurred in M. Kempelen's* speaking machine, elocutionist principles would, if rightly applied, set it right; but in that case the machine is simply an objective phenomenon, not one to which the beholder is subjected. This caution I believe I cannot impress too strongly on the attention of stammerers of the nervous class; I am, however, inclined to believe that it is wrong to imagine that no stammerer may be benefited by it, or indeed that cures have not been effected by its means. But the class to whom such remedies would apply are very far removed from that which I am now addressing.†

* Carpenter's Human Physiology, p. 324.

† The elocutionist thinks it necessary to understand well what is called the *audibility and mechanism of utterance*, before any attempt at the cure of stammering should be made: thence he proceeds to shew all the varieties of sound in vowels and consonants; he classes into two great heads—

VOWELS.

1. Monophthongal, or having only one sound if prolonged, as *e* in *eel*.
2. Diphthongal, or having two sounds if prolonged, as *i* in *isle*, which runs gradually into the sound of *e* if the mouth is kept in the original position during the prolongation.

CONSONANTS.

He divides the consonants into those with voice and those without voice.

1. With voice, as the *m* in *am*.
2. Without voice, as *t* in *to*.

Some have what is called breath sound, but not laryngeal voice, as *th* in *thin*.

Consonants are also said to be monothongal and diphthongal when prolonged. As an example of the former, take the *v* in *vow*; of the latter the *q* in *queen*.

The utterance of these sounds he calls *enunciation*; the junction of enunciated sounds *articulation*.

He describes three sorts of junction:

1. A vowel preceding a consonant, as *eat*=*ee-t*.
2. A consonant preceding a vowel, as *fee*=*f-ee*.
3. A consonant preceding a consonant, as *bl*=*b-l*.

Next he proceeds to shew the different sorts of stammering which exist, and divides them into two great heads:

1. Difficulty to produce voice.
2. Difficulty to produce voice in quantities adjusted to the syllable's demands.

The former arising from either ill regulated respiration or a spasm in glottis,

sometimes of the nature of chorea, sometimes of tetanus. The latter arising from enunciative difficulty in forming the sounds of syllables, or articulative difficulty in combining syllables. He then shews which are the different letters and combination of letters which occasion difficulty in the different sorts of stammering, and enters minutely into these variations.

Having thus analysed speech and stammering, he urges the necessity of cure by correcting these faults through a long system of training the muscular actions employed in speech, and using methods intended to obviate the involuntary spasm and the involuntarily disordered associate movements of stammering, such as reading and talking in a periodical manner, &c. &c. This, as far as I can gather, is the outline of the system; but for accuracy I refer to the Penny Cyclopædia.

CHAPTER II.

ON THE CAUSES OF STAMMERING.

Plans proposed not equal to the case, because grounded on partial views of pathology.—On the ultimate cause of this affection.—History of stammering connected with history of speech: four distinctive processes or elements of speech.—The point among these at which stammering originates; not the first or fourth, nor the second, but the third; the fault probably arising only from infirmity of structure.—Theory more fully explained, by shewing when the mental phenomena of the disease step in.—Two influences now at work —What proportion do these two influences (namely, original physical defect and acquired mental affection) bear to one another.—Impossible to decide in each case, yet two manifestly different classes arise from the predominance of the one or the other influence.—Comparison of these two classes, and summary.—On proximate causes of stammering.—On spasm. Whence does it arise? What is its course or history?—On habits and associations. —On congestion of blood to parts.—On circumstances facilitating the appearance of the affection; as sex, want of melody in national language, education, temperament.

Having thus criticised the various opinions of different persons on the subject of stammering, and having seen how much their observations are founded on truth so far as they go, whence does it arise that cures cannot be effected, in so very many cases, by any of the methods they propose? My answer is, it is because their theories about this complaint, each and all, are grounded on consequences rather than causes: they generally speak of the human being, his speaking machine, and his infirmity, as if they were commenting upon an unconsciously acting being, or

rather, I should say, a being uninfluenced by a sensitive machinery which is frequently beyond the control of the will. What they say about the closure of the glottis, about the want of the proper inflation of the lungs, about keeping up a tide of sound, avoiding difficult letters, attending to the position of the tongue, &c. &c. may be very true as far as it goes, and yet with all this accumulation of truth, I believe they cannot cure most very nervous stammerers.

The abnormal actions mentioned above may be proximate causes, but they are not ultimate causes; before, therefore, we attempt to eradicate any infirmity arising from a proximate cause, we certainly ought to understand the nature of the ultimate cause. The question, then, now is, What is the ultimate cause of stammering? and I must beg the kind consideration of my reader while trying to explain what is in itself a very abstruse subject.

On the pathology of this affection. The history of stammering connected with the history of speech.—The natural history of stammering is of course dependent upon the natural history of speech, and in order to understand it rightly we must first analyse speech itself. What is speech? It is a conscious act,—an effort of the body resulting from an effort of the mind; it is voluntary as a desire of the mind, but the power to effect speech may, either by physical or moral causes, be out of the control of the will. Let us trace this more in detail. For abstract mind to act on abstract bodily organs, such as the larynx, &c., it is necessary that there should be a medium; this medium may be called the mental energy of the will acting on the accumulated nervous force of the motor organism of the body.* In this medium I believe the original cause of ab-

* A brief sketch of the chief divisions of nervous function may be of use here in assisting the comprehension of this sentence by those who have never studied physiology. According to the best physiologists of the present day, the nervous centres of the brain and spinal marrow may be said to be divisible into three great compartments.

1. A part to be the recipient of all immediate sensations *ab externo*, with which

normal speech to exist: by tracing the several most distinctive steps by which speech is effected I will show more clearly what I mean. The phenomena or elementary processes of speech occur as follows:—

Four distinctive phenomena or elementary processes in speech.—1. Ideas are received, arising either from immediate sensations or originating in the brain in an abstract manner; they are arranged into proper succession by that organ.

2. The will determines to give this train of ideas expression

function the part called the medulla oblongata is particularly connected. (This is also the source of respiratory movements.)

2. A part to be the storehouse of all past sensations as well as the workshop of original ideas; in other words, to be the *instrument* for the exercise of memory, reason, imagination, as well as all mental emotions; to be, in short, the instrument or seat of the mind: this is generally esteemed to be the office of the cerebrum proper.

3. A part to be the source and centre of motion and the controller of all compound associated motions, with which functions are connected the cerebellum, as well as the ganglia of the spine, &c.

According to Müller, the motor fibres are described as being laid out at a certain place (medulla oblongata) for the will to act upon, and they may be esteemed to be generally when in health tributary to and subservient to the dictates of the will. These fibres may, however, become unequal to obey the dictates of the will from either an excess or deficiency of inherent nervous energy, from compression, &c. &c.; and if the proper equilibrium of power is lost between these nervous functions, the muscles subservient to the motor fibres will, of course, act abnormally and without proper harmony.—(*Vide* Müller's Physiology, p. 934.)

This simple explanation may, perhaps, assist in the comprehension of what follows on the causes of stammering. The chief means by which physiologists have arrived at these conclusions, more especially as regards the three compartments of the brain, cerebrum, cerebellum, and medulla oblongata, have been the result of experiments on animals. When the cerebrum proper has been gradually removed, the animal loses all power of will, and probably all conscious action; he is still capable of putting his limbs into combined harmonious action for a time by a stimulus ab externo. When the cerebellum is removed in a similar manner, he loses all power of combined motion; when the medulla is touched he ceases to live. The exact anatomical positions of the seat of these different functions is still open to much speculation; but the divisions of function may, I think, be presumed to be established.

in any way it can; if this distinct faculty did not exist the ideas would only remain as what we ordinarily call thoughts. So far the acts may be called mental.

3. The third step is the stimulation to normal action of the motor nervous system which is connected with the organs of speech. The fibres of all the motor nerves may be imagined as spread out at a certain point or points, and exposed to the influence of the will like the keys of a piano-forte to the fingers of the player.*

4. This nervous mechanism thus stimulated causes the vocal apparatus (as larynx, &c., *vide* note, p. 4) to play its proper part. This is speech complete, as regards its most distinctive phenomena; each step is tributary to the one above it, and as long as these act in harmony on one another, fluent speech is the result. The question now is, where in this chain does stammering enter?

The point at which stammering ensues.—In entering upon this topic, it must be remarked that I view stammering not as a peculiarity acquired in after life, as an ordinary bad habit might be, but as the result of a taint or defect ingrained in the individual from his first separation from the parent stock; its hereditary character, which is so frequent, is my chief reason for this opinion. I shall first view this affection as it exists in the infant *ab initio*, and before mental emotions have complicated it; and secondly, as it exists at a more advanced period in the adult, by which means I shall be enabled to divide stammerers into two marked and distinctive classes.

Stammering has no connexion with the first or last

* Müller says upon this point, p. 934 of the Physiology: The fibres of all the motor, cerebral, and spinal nerves may be imagined as spread out in the medulla oblongata, and exposed to the influence of the will like the keys of a pianoforte. The will acts only on this part of the nervous fibres; but the influence is communicated along the fibres by their action, just as an elastic cord vibrates in its whole length when struck at any one point.

of the four processes just enumerated.—The first and the last of the processes here enumerated have, in my opinion, no essential concern in stammering at any period of life. Any one must know that the first, namely, the elaboration of fluent thought, may be, and is, as much in the power of the stammerer as of the most fluent speaker, for the contrary supposition would make this infirmity the result of an unsoundness or deficiency in the intellectual powers; whereas the stammerer can think as truly and as long, so as thinking is all that is required of him, as any one else. The last element necessary for the possession of the power of fluent speaking is a sound and proper vocal apparatus, and this I believe to be in no way deficient in the stammerer, for these few and manifest reasons:—Most, if not all stammerers, can and do sometimes speak fluently if you let them be alone, and perfectly free from any anxiety—moreover, many stammerers have remarkably powerful and deep-toned voices. Now, a few sentences spoken perfectly only once in the whole of their lives are a proof sufficient that the vocal apparatus is of itself equal to the operation of speech, at least at the time when they are uttered, so that no one thus affected need request a surgeon to search for stammering by looking down his throat, or undergo the operation for the removal of his tonsils, &c.—absurd methods of treatment, of which even eminent medical practitioners are at the present day guilty, from a foolish want of discernment in looking on a nervous impediment in the speech as allied to other simple vocal defects; such as not being able to sound certain letters, speaking in a peculiarly thick or husky way, &c., defects evidently dependent on a deficient construction of the vocal apparatus.

Neither is it likely to be in the second process.—Neither, indeed, do I imagine that the second complement of speech (or the instinctive will and desire to give utterance by a physical act to internal thought) is in any way necessarily at fault in the

stammerer *originally*; if there is a peculiarity of this sort, what is it? It must either be an excessive or deficient* energy. Now, if either of these faulty degrees of energy existed on the subject of speech when articulate, we should, I think, find the same excess of desire, and consequently the same defect, in the inarticulate cries of the infant before speech is complete, for their inarticulate cries include this second element quite as much as articulate speech does,—it is, in fact, the mode of utterance of the infant; but in these cries there exists no spasmodic action; they are in all points as fluent as in any other child: *the difficulty does not, in fact, arise until a more complex action is thrown upon the motor powers.* Moreover, if the disturbance in speech arose simply from an excess or deficiency in the desire, I think we should be likely to find the same peculiarity existing in the other mental functions of the individual; but, if we investigated the matter well, I do not believe that we should find the affection by any means confined only to the ardent and irritable temperament. But I must here caution my reader not to mistake my meaning on this head, and to discern between the original instinctive desire to give utterance to internal emotion (a desire which is common to all animals having a voice) and general mental emotion on the subject of speaking: the former is an instinctive desire antecedent to all elaborated thought; it is an impression on the nervous system, existing almost as naturally as sucking or putting his

* It is a very interesting and important matter to draw a distinction between ordinary stammering and the drawling hesitation of paralysis; for in the latter case I believe the hesitation to be *ab origine* more of a mental than a motor character; its very sound is quite different; it evidently conveys the idea of slowness and obfuscation of thought; sometimes there is no convulsion, but only a maudlin drawling utterance: the person as it were tumbles out his articulation, and, where a convulsive check occurs, it seems as if he dwells on an articulative act chiefly because he hardly knows what sound to utter next. Here we know, too, by post-mortem examination, that the hemispheres are atrophied, and that the source of the complaint is evidently traceable to this condition.

limbs in motion in a new-born child. The latter, on the other hand, is the result of recollections, the fruit of exploring the storehouse of the mind; the former I am trying to prove as not necessarily abnormal in the stammerer *ab initio*, while the latter I believe to be most intimately connected with stammering as life goes on, to such an extent that it soon becomes a cause, and may ultimately be the only remaining cause.

It is most probably in the third element.—My belief is, that stammering *originally* arises from an infirmity in the third element of speech, namely, the *motor nervous power;* that there exists in some individuals an idiosyncrasy, amounting probably only to a too great irritability or sensibility of fibre, in that part of the brain or ganglia, as well as their efferent nerves, which control the motions requisite for speech,* and that this peculiarity exposes it to be most easily disarranged, *and driven*

* The kindred relationship of this affection to chorea or St. Vitus's Dance is one great reason why I believe the root of this complaint to arise in the nervous centres. Stammering is, in fact, *a chronic chorea of the speech muscles.* For what is chorea? It is an incomplete subserviency of the voluntary motor muscles to the will, rendering their actions uncertain, tremulous, and spasmodic. Stammering is more especially like that form of chorea which manifests itself only when the will directs the muscles to any particular act; as, for example, a person subject to this degree of the complaint will sit very quietly in her chair, and while the muscles are voluntarily at rest; but ask her to give you something, or to walk to a particular spot, and the muscles act so spasmodically that she cannot fulfil her desire, though sometimes by a strong effort of the will the spasmodic actions can be controlled; and this is important to remember in connexion with stammering. Stammering is, indeed, one of the results often of chorea, and the affection is very similar in many of its features to the idiopathic affection. The results of extreme chorea and extreme stammering, too, are similar in this respect, that sometimes violent spasmodic action terminates in temporary paralysis of all action, on the principle that a certain amount of pressure on nervous matter causes convulsion, while a greater amount will cause paralysis. Chorea and stammering are equally remarkable for their increase upon nervous excitement; the same sort of positions, too, will cause this increase,—such as argument, opposition, indignation, &c. But more than this, they show their connection by the fact that stammering will attack one member of a family and chorea another, and thus

*into spasmodic action by the ordinary mental desire to speak.**

Though the fault is probably nothing more than infirmity of structure.—I believe the peculiarity to be only a difference of degree of sensibility† rather than any difference in kind of atomic structure, from the circumstance that very many fluent

shew that the diathesis, or natural constitution necessary for the development of the two affections, is very similar.

* Should this theory be a source of anxiety to any stammerer, and make him say, "Then I am the subject of an organic complaint, whereas I hoped it was only functional," let him attend to what I now say:—First, according to this view, you are only subject to an organic affection so far as weakness or increased susceptibility of fibre may be called so: secondly, the amount of permanent ailment that you suffer from is to be judged of by the symptoms you shew when at your ease in speaking, and not only when you are anxious: for, thirdly, it is manifest that could you reduce mental emotion when talking or reading before those whose observation you fear, you would only stammer to that extent that you do when perfectly at ease, which in very many adults would be very little indeed. As well might we call an hysterical person the subject of organic disease, because her breathing is convulsive instead of easy, as call the stammerer (according to this description) so.

† In speaking of the difference of degree of sensibility, &c. of increased irritability, &c. of the nervous motor fibres, I do not lose sight of the very probable consequence of local congestion of the blood to the parts thus deficient in vigour. Now if there exists a tendency to local congestion about any of the motor fibres of the brain or spinal ganglia, it would itself cause irritable spasmodic action or paralysis (in proportion to the amount of pressure) of the muscles supplied by them. This inherent tendency may be more or less permanent (as we would suppose in the case of continuous stammerers), or only arising on excitement (as we may suppose in the case of intermitting stammerers, vide p. 31). We all know well how local congestions of blood are connected with nervous susceptibility; witness blushing, the determination of blood to a mother's breast, and parts rendered susceptible by disease, &c.; and (forestalling the treatment) I would say, it is very important to remember that though we cannot *directly* check such local congestions, yet we can *indirectly*, through control over the emotions of the mind by an effort of the will. We must also not forget sources of irritation *ab externo*,—such as sympathies with abdominal, uterine, cuticular, and other conditions,—which we believe to be so important in kindred affections, such as tetanus, chorea, epilepsy, hysteria, spasmodic asthma, laryngismus stridulus, &c. &c.

speakers, if not all persons, are in some measure exposed to the affection; for very powerful causes, such as horror, excessive perplexity, or shame, will convulse and paralyse the power of speech in ordinary individuals. There is, however, this great distinction between them and the stammerer, namely, that they require a most violent cause, such as seldom occurs, to overturn the balance of the machinery of their speech, and even then they can recover themselves by an effort of reason and recollection. For the ordinary speaker, when thus discomposed, argues with himself (unconsciously) I always could speak fluently, why should I not now? and this is enough to dissipate the incubus; but the stammerer, who is upset by the slightest cause, such as the desire to gain the attention and explain his ideas to a friend, has been exposed to such continued hesitation that recollection and experience only increase his difficulty. Now, though according to this theory hesitation is only a thing of degree, from that of the fluent speaker down to the most convulsed stammerer, yet, in practice, stammering cannot be said to commence until hesitation has arrived at such a pitch, that the person so affected has lost his moral mastery over it, and cannot correct it by his reasoning power.

More full explanation of the idea, by shewing when and how the mental phenomena of the affection step in.—This, then, is my theory—namely, that in early life the mental desire is not excessive, but may at first only be what it is in any child who is endeavouring to make himself understood; but that the motor nervous power is not able to bear even this agency without spasmodic action; but as life advances (and this brings me to speak of stammering when complicated by mental emotion,) and the mental faculties develope, and the more physical become subservient, the attention is attracted to this peculiarity, and now, added to the original physical weakness, there is an excess of mental emotion on the subject of speaking, so that ultimately perhaps the original physical weakness may be almost entirely eradicated, and yet the stammering remain, from the equilibrium

being overbalanced by the weight of excessive mental emotion. The different effects that correction has often in the infant and the adult shew as much as anything the alterations undergone: correct a child, and tell it to speak more deliberately and plainly, and you improve his speech; do the same to an adult, and you increase his distress. I think it not improbable, that in some cases of adults the motor weakness may have *really* vanished, and yet stammering *continue from the force of habit and association, added to the excess of mental anxiety on the subject of speech.* It will be said, how can this be? Why should not a perfect motor power be able to bear the stimulus of ordinary mental emotions? My answer is, that the emotions of the mind in the stammerer, though ordinary to him, are extraordinary as compared with other people, and may be akin to those violent emotions which paralyse and convulse even fluent speakers; and if so, the emotions being equal and the result similar, why should not the motor power be in a similar state? This is, however, hypothetical.

Two influences being now at work, namely, the original physical and the acquired mental infirmity, what proportion do they bear to one another?—The exact proportion of the two influences *which now exist*, namely, excess of mental emotion and deficiency of motor power, cannot, in after years, be at all accurately decided in any individual case: and the degrees of difference probably are infinite; but most stammerers do not shew any hesitation until more than ordinary mental emotion has caused it.*

* A mother will say of her child, "he never stammers unless he is particularly anxious to explain himself." It is always either fear, or hurry, or some such moral cause, that effects it, and she will ask why in that case I am inclined to put down the original cause as physical rather than mental? My answer would be, your child has a motor power equal to the ordinary stimulus of the mind and will; so he speaks well generally; but it is not equal to the extraordinary stimulus of excitement of the mind and will; so when that occurs the motor power is driven into spasmodic action. She might say, Why should not the fault be called an aggravated mental effort which overlays an ordinary motor power? To

Though it is impossible to decide the relative proportions of these two influences for every case, yet there are two distinctive classes which show marked differences of proportion.—There is, however, a great difference in individuals in the proportion of influence that moral causes obtain in stammering; the diversity is commensurate, indeed, with the diversity that moral influences have generally over different individuals as life proceeds, and the degrees of difference are as many as there are individuals: but though it may be impossible to analyse all these different phenomena, there are two great and manifest classes of stammerers, that any one interested in the matter could not help observing as strongly contrasted, which it will be very useful here to dwell upon.

These classes explained.—There is one class who stammer pretty equally under all circumstances; they have not marked seasons of perfectly free speech, and, on the other hand, no very violent periods of convulsed speech. There is another class who speak with perfect fluency on many occasions, but who are most violently convulsed on occasions of excitement, and show the effect of mental emotion to a much more intense degree than the preceding class: I will call these, for brevity sake, the continued and the intermittent stammerers. The radical difference between these two classes is explicable, I believe, thus: the continued stammerer's affection depends almost entirely on original physical defect—it is comparatively but little complicated by mental emotion; the intermittent, on the other hand, has probably lost much of the original radical weakness, and it is mental emotion arising from recollection of the affection and its consequent anxieties which keeps it up.

answer which I must refer her to what I have already said on the subject of the inarticulate speech of children, and to the fact that we do not find extreme mental anxiety urging to by any means the same degree of spasmodic utterance in ordinary children, that slight anxiety does in stammering children; and therefore we must look for something existing in stammering children over and above what we find in ordinary children, excitement of mind being common to all children to almost any degree.

Reasons for distinguishing between these two classes.—My reasons for believing in the more physical nature of the one, and the more mental nature of the other, are apparent enough; the continued stammerer can do many things of an exciting character which the intermittent cannot do, and the intermittent can do other things which cause no excitement much better than the continued stammerer. The continued, for instance, can read aloud before congregations with only a certain fixed amount of stammering; he can maintain his ground in argument pretty well; he will stutter on, and seldom be much better, or much worse, when the intermittent stammerer, owing to his stronger mental emotions, would be utterly incapacitated, and would become strongly convulsed in utterance: on the other hand, the intermittent stammerer enjoys periods of very easy and fluent speech, which the other does not.

What is the relative prospect of cure of these two classes?—The practical interest of recognising these extreme classes is as regards treatment and the prospect of cure. Of the treatment I shall hereafter speak, but as regards the prospect of cure it is somewhat difficult to form an opinion, as the race is between two such very dissimilar influences; for the one has to control an habitual bad physical action by applying his attention to it, and employing physical movements suited to obviate and neutralize the spasmodic abnormal actions; while the other has to control mental emotion by abstracting as much as possible his attention from the subject altogether: the question is, whether is it easier to obliterate a physical infirmity by employing means suited to obliterate it, but which, owing to habit and association, it is often very difficult to use; or to distract the attention so much from a long accustomed source of mental anxiety, as to act as if you had it not, and that when its frequent recurrence must remind you of its existence.

Which sort is the most trying to the person affected?—I have stated here the distinctions broadly, and with far greater precision than the case generally allows of, as every one must

well know how much abstract thought and habitual action influence each other; and persons conversant with stammerers would seldom find one who does not partake in some degree of the characteristics of both these classes: it is stated so, however, with the wish to draw attention forcibly to the individual peculiarities existing among stammerers, and to obliterate the too prevalent notion that stammering is an unique affection influencing its subjects in a similar manner. I will only add, that, while I believe most people would prefer the condition of the intermittent stammerer, I believe the continued stammerer, who stutters on through life in an even tenor, suffers incomparably the least of these two classes from this affection.

To sum up briefly the ultimate causes of stammering, I may say that I believe in all cases it arises from a deficiency (remediable, if not always curable, by voluntary resolution and energetic continuance in certain physical or mental courses of treatment) in the physical as compared with the mental complements of speech; for both in the case of the more simple continued stammerer (whose defect arises merely from the original physical cause), and in the intermittent stammerer (where mental emotions have complicated the matter), the more physical complaint is unequal to the energies demanded by the more mental.

On the proximate causes of stammering.—It is now an interesting matter to show how this ultimate cause manifests itself in producing stammering; in other words, what is the proximate cause of stammering.

It is evidently a spasmodic action in the muscular apparatus upon which articulate speech depends that gives rise to the impediment to fluent utterance.

Out of this fact arise two very important questions, namely,—

1. What is the immediate *source* of the muscular spasm?

2. What is the course, or early history, of this muscular spasm, if we watch it from its commencement?

On the source of the spasmodic affection.—First, then, regarding the source of the muscular spasm. *In all the cases*

where the motor influences of the brain and spinal chord are in a state of depression, the muscles of the body which they actuate become relaxed, and consequently unequal to normal action; for where the will endeavours to actuate muscles thus situated, their first tendency is to a tremulous uncertain action (if they are not wholly paralysed); the will, however, continues to press upon these muscles, thus already rendered irritable and hesitating, and the consequence is an excessive and spasmodic instead of a normal action; for if the harmony of muscular action is once disturbed, it is much more inclined to run (when urged by the will) into an excessive than into a normal course. Now a depressed state of the motor influences, so far as speech is concerned, I have already presupposed to exist as a physical defect in all stammering infants, and I believe generally in adults; but if we are to suppose a case where there continues to exist no actual motor weakness, but only a mental anxiety oppressing a normal motor power, the only difference is, that we have to recognise one more link in the chain of consequences; namely, we have to account for the state of depression of the motor influences of the brain and spinal chord, which we suppose to exist when spasmodic stammering takes place, and which, in this case, we do not suppose to exist when the mind is free from strong emotion. This is soon explained: for the sway of any of the depressing passions, such as fear, anxiety, and so forth, immediately depresses the motor influences of the brain and spinal chord. Witness the operation of fear in a person about to be run over in the street,—how tremulously the muscles act; and how often has it been the case that they have refused action altogether, and, through excess of fear, the person has been unable to move from the spot. Now if this is the case with the cerebral and spinal nerves generally, much more is it so with the facial and respiratory nerves, which are the nerves especially employed in effecting speech: we well know that the least emotion of the mind will disarrange the action of these nerves—witness the gasping and hurried

breathing consequent on fear, the twitching of the mouth, the choking in the throat, and the condition of the voice: indeed, so much is the voice actuated by mental emotions as to become the index of the state of the mind from the decisive voice of resolution to the tremulous voice of anxious uncertainty.

On the course taken by spasmodic action in speech ab initio.—The next point of interest is to investigate the course by which this insufficiency of the motor nervous influences generally manifests itself in the commencement of stammering.

Articulate and perfect speech is compounded of the conjoint associate action of different groups of muscles; groups of muscles, when they are once associated by habit in their action, are generally much averse to being isolated; and, owing to this circumstance, different habits and functions to which the body is accustomed are not prone to disarrangement: but in the groups of muscles which effect articulate speech there are two sets which have a distinct and separate action originally, inasmuch as one set begins to act much sooner than the other. I refer to the set connected with sound, and the set connected with the articulation of that sound: the first set we will denominate the laryngeal, the second the articulative, or the muscles of the fauces and mouth. I believe that the peculiar weakness of the motor influence in the stammerer manifests itself in the incapability it shows in putting these two sets into harmonious and synchronous action. The infant, from the commencement of life, is accustomed to put his laryngeal group of muscles into action from his first cry; this is the voice of an infant; and during his infancy the laryngeal sounds, and laryngeal modifications, are the only points requiring attention.* After a time he instinctively further modifies these vocal sounds by peculiar conformations of the mouth and fauces; but it is some time before he adopts the acquired habit of altering these conforma-

* Lest it should seem absurd to speak of the attention of the new-born infant being directed to anything, I beg to state that all I mean is, that the nervous energies are directed to, and spent upon, this or that object.

tions according to any recognised principle. At length, chiefly by the means of imitation, he discovers that certain modifications of voice represent certain fixed ideas. From this time dates the commencement of articulative speech and the source of stammering. Now our way of explaining the mode in which spasm arises will depend upon whether we believe the spasmodic action of the articulative muscles to be primary in themselves or secondary. If we take the former view (which though the simpler is the less probable) we must suppose that, from the commencement of articulate speech in the ordinary fluent speaking person, the nervous energies are more fixed on the articulative movements than on the laryngeal; that habit has rendered the laryngeal sounds so natural and customary that hardly any attention is necessary to keep them up, and that in most cases they retain their wonted vigour while the articulative habits are acquiring and being practised; but that in *some* cases, it would seem, that the motor influence is unequal to maintain conjointly these two actions, with all their complications, in full energy and harmony; and during this stage of life, when the attention is drawn away from the laryngeal, and is fixed upon the articulative, the proper equilibrium is lost, the latter becomes excessive in one place or another, the former deficient; in other words, the child begins to stammer. But if we take the latter view, namely, that spasm in the articulative muscles is always a secondary affection, we must believe that the motor nervous power shows its inefficiency for keeping up the double work, by primary spasm manifesting itself at the part the least directly under the apprehension of the sufferer, namely, the glottis: that the person finding himself stopped (he knows not where), trys by the exaggerated action of parts more under his immediate attention to remedy the evil. This question, however, does not arise in cases where the spasmodic affection is evidently at the glottis; for in this case the supporter of the first view would not refuse to allow the truth of Dr. Arnott's position, as his

object is not to deny the occasional existence of primary spasm at the glottis as much as at any other part, but only to deny the assumption that all stammering, articulative as well as vocal, arises from primary spasm at the glottis; so that, in this case at least, the second explanation which I have given of the mode in which the insufficiency of the motor nervous power manifests itself, may be thought to be the right one. That the laryngeal efforts are deficient, and the articulative in excess, is manifested by the ease with which stammerers can sing when they cannot speak; the mind, again, in singing, is chiefly occupied with laryngeal efforts, and the articulative are *necessarily* kept in abeyance; and this attraction of the attention acts as an immediate antidote to stammering.

On habits and associations per se.—There is, however, another influence which I believe is of great moment in the details of daily stammering; I mean the effect of simple habit and association, and that wholly independent of any strictly mental or physical causes. There is, in short, a great facility given to this or any other inordinate muscular motion by its own repeated excitation. Suppose you could remove all the ultimate causes of stammering, free speech would not, I imagine, be the immediate result; for old habits have to be replaced by new ones, and associations of ideas would still affect the speech, even were it possible to remove all mental emotion. As an instance of the power of association of ideas per se, I believe it often occurs that stammerers of the intermittent class, whose hesitation is generally owing to mental emotion, sometimes find themselves beginning to stammer with people, and under circumstances, where they have stammered before (which former stammering had arisen from mental emotion), and yet they are not conscious of any mental emotion; unelaborated ideas or associations here seem to act the part of mental emotion, with this difference, however, that the reason is generally able to dispel at once the impression of the simple associated idea; and if what we term mental emotion has not suc-

ceeded, the person can correct himself, and speak plainly. The simple effect of habits and associations, however, is in the inverse ratio to mental emotions as regards age; for the younger the child is, the more powerfully do they influence him: while, on the other hand, by the advance of years, elaborated mental emotions gradually occupy almost all the ground previously occupied by these less elaborated efforts of the mind.

On congestion of blood caused by spasmodic action of muscles, and its tendency to increase a spasm already excited by nervous irritability.—In commenting on the causes of stammering, I wish to suggest the question whether, in very bad stammerers, congestion of blood to the muscular parts concerned in speech may not have some effect in keeping up the violence of spasmodic action? In very bad stammerers we may often observe a great turgescence of blood in the parts about the fauces; after the spasm has continued a certain time, the vessels fill, and the face becomes congested. Now we know the effect that the presence or absence of blood has upon muscular tissue, or rather we should say the nervous branches which ramify in its substance: witness the effect of the obstruction of the circulation in the leg or arm: the limb loses all power of motion, it becomes what is vulgarly called asleep: the cause of this is, that the muscles cease to have their ordinary amount of power from a want of the supply of fresh arterial blood; but let the circulation regain its wonted course, and muscular action regains its customary vigour. On the same theory, we could easily understand that, if an extraordinary quantity of blood is driven to a part, it may cause excessive action of that part: witness the rapidity of ideas, and violence of mental function, consequent on congestion of the brain: the excessive action, too, of these muscles must of itself cause them at length to acquire an excessive vigour, as in the trite example of the blacksmith's arm, and thus excessive action propagates excessive action. This theory, too, may account for what I believe many bad stammerers are conscious of at times, namely,

an unwonted and excessive degree of spasm, which seems to get almost quite beyond control: the spasm of stammering has, in the mind of the stammerer generally, a certain boundary; the abnormal and excessive nervous force arrives, as it were, at speech after a certain time, but on some occasions it would seem that there is another influence at work over and above the immediate nervous irritability. May not congestion of blood have some concern in this?

On the causes that seem to facilitate the appearance of this affection.—Before I conclude the history of the causes of stammering, I must advert to the partiality it shows to certain constitutional and other circumstances in selecting its victims. In the first place, it is very remarkable how much this affection predominates in the male as compared with the female sex. Whence does this arise? Judging from the nervous nature of this complaint, you would presuppose the contrary result, particularly when we remember that females are so especially liable to affections of a spasmodic nature—witness hysteria, chorea, epilepsy, &c. There are various ways of accounting for this: one is, that the circumstances amongst which women are thrown in early life are not so exciting and harassing as is the case with men; for instance, girls are kept at home more than boys, and have not to contend with the vicissitudes of life so much, consequently an early disposition to the affection is more easily overcome; but, on the whole, we should judge that the stronger texture of a man's general constitution fully balances the inequality of such circumstances; at least we see it does so in almost all the other incidents of life. On this subject it is not uninteresting to advert to the fact, that for the perfection of the vocal organs in the male a greater development, and more elaborate organism, is required than in the female. This argument would not, it is true, bear much upon the stammering of early childhood (as during that period vocal organization is pretty nearly equal in the sexes), but, taking into consideration that

hesitation of speech fades away before the perfection of puberty in very many children, we may at least think that the excess of this peculiarity in adult males may have some connection with the physiological circumstance here alluded to; for we know the more elaborate any machine is, the more is it exposed to accident and disarrangement; and if this is the case with machinery in general, how much more so must it be the case in a mechanism actuated by so subtle and delicate an agency as nervous influence!

But it is to be observed, that stammering is peculiar to certain nations and languages, while others may be considered almost free from it. A Physician, who has written on the subject of Rhythm in Speaking, has remarked, "that those nations whose languages are most rhythmical appear to be least liable to stammering. The inhabitants of China, and more particularly of Cochin China, are said never to hesitate when they speak their own language, which is very rhythmical, and in which there is a great similarity between different words both in sound and measure; but natives of both countries have been known to stammer when speaking in foreign tongues. The languages of different tribes of North American Indians are remarkable for their melodious character; and Mr. Catlin, who has written a work upon their habits and manners, and whose opportunities of observing those races have been abundant, states that he never remembered to have seen one among them stammering."* The physician who makes these remarks also says, "Rhythm appears to be natural to a proper exercise of the vocal organs." This is a remarkable passage, as it seems to infer that stammering is a complaint to which we are subject because we have forsaken a primitive custom, an original intention,—namely, that we should speak in a slightly intoned

* This passage is quoted in a pamphlet by a clergyman entitled, Mind, Breath, and Speech. This little work I fell in with whilst preparing this treatise for the press, and after I had written the greater part of it.

manner; indeed, among ourselves, when orators become particularly impassioned in their subject they are naturally inclined to run into a modified rhythmatic mode of speaking, which not only impresses the audience, but very much assists the flow of language: on this principle I presume it was that Demosthenes was in the habit of declaiming on the sea-shore to the monotonous cadence of the waves. In connection with this, we may remark how much commoner stammering is among the well-educated than among the poor and illiterate, whose powers may be said to be more in a state of nature than their more cultivated brethren's. This last fact, however, may probably be easily accounted for by the well-known fact in pathology, that the absence of muscular exertion, and the extreme exercise of nervous energies common among refined and luxurious classes, predispose an individual to nervous ailments generally. There is, however, a certain temperament, for which I believe that we have no more precise or definite expression than nervous irritability or mobility, that is peculiarly subject to affections of this spasmodic nature: I grant that people of a phlegmatic temperament stammer, but I do not believe that they are by any means so subject to this affliction. I will give one or two instances which have come under my observation. In one family with whom I was intimate, one brother stammered, another brother suffered from chronic chorea, and a sister had a similar affection; all the family were remarkably subject to the characteristic termed mobility; their efforts of mind and body were generally speaking rapid, irregular, full of interest and energy, but deficient in continued voluntary efforts of the mind, or steady business-like habits. In another family with which I was also intimate, two brothers stammered very badly, and a sister was subject to epileptic seizures, which is also a spasmodic affection, and belonging to this species of complaint. In a third family with which I was also intimate, three out of four brothers stammered: there were three sisters who were not affected in any way. Their father had stammered in his

childhood (I adduce this instance only to show that the complaint exists in families): I do not believe that this family suffered from any kindred affection. Instances of this description may be multiplied by the experience of any one interested in the matter.

But varying conditions of their own system diversify the degree of morbid susceptibility of persons who are subject to spasmodic affections, and particularly stammering, some of which appear contradictory and paradoxical; as, for instance, a person's stammering is better when he is in vigorous robust health; it is also better when he is entirely exhausted and relaxed in system. To account in some measure for these conflicting statements, it is necessary to suppose three broadly distinct states of the nervous system, somewhat such as follows:—

1. When the person is vigorous and robust.
2. When in general delicate health.
3. When the system is very much exhausted, and consequently nervous energy is relaxed.

In No. 1, stammering is improved; in No. 2, it is worse; in No. 3 it is better again.

In No. 1, excessive nervous energy is repressed by general tone; for it must be remembered that the presence of undue nervous energy is a symptom of weakness, not of strength; increased function in this case, as in many others, shows organic weakness; health has boundaries, disease comparatively not. This is very manifest in nervous affections: take one of the worst, insanity; mania may be generally said to be a morbidly increased nervous force consequent on want of tone and vigour of the nervous system. When nervous energy is at its height, as in a paroxysm, we often see the skin clay-coloured, the tongue foul and parched; as the glow of health returns, the nervous force gets within compass, and mitigates.

In No. 2, excessive nervous energy, or spasmodic action, occurs from want of this general tone.

In No. 3, this increased nervous energy may be esteemed

spent, and the system reduced by sheer exhaustion: for example, a person fainting or dying would probably have free utterance.

By keeping in view these three conditions of the nervous system, we can understand many apparent discrepancies in the circumstances in which spasmodic speech occurs; for instance, it is generally, I believe, better in the evening than in the morning: in the morning we may suppose the system at degree No. 2; in the evening at degree No. 3. In some cases, however, I believe the system is more vigorous in the evening than in the morning, sleep acting as a sedative, and reaction not taking place till food, and the higher vitality of the waking state, have caused it. The theory I have here put forth does not necessarily infer that no robust people stammer, or rather, that spasmodic and nervous diseases do not exist in healthy people; for a local nervous mechanism may want tone, though the system otherwise is in tone: it only shows that tone of body generally relieves stammering. Robust people become insane, and are subject to epilepsy, chorea, &c. Speaking generally, it is somewhat affecting to note how spasmodic diseases are inclined to select those for their victims who are the least suited to bear the burden of the disease; the sensitive, the refined, the imaginative, those to whom the observation or ridicule of others is most disagreeable, are the greatest sufferers: indeed, had they less of these different qualities, they would probably have never been subject to the affection. It is a lesson in morals, it shows the fallible nature of all earthly things in a striking degree, that the possession of certain qualities, which are excellent and beautiful in themselves, should be the means of preparing a weapon which shall wound and blight their possessor. The sensitive stammerer, indeed, may say:—

> "Keen were his pangs, but keener far to feel
> He nursed the pinion which impelled the steel;
> While the same plumage that had warmed his nest
> Drank the last life-drop of his bleeding breast."

These reflections, however, would become unwholesome if

persisted in, and should only occupy a leisure moment while we reflect on the providences of life; the business of *the day* is not morbid reflection, but *energetic action;* and to remember that while it has pleased the Almighty Disposer of events to lay a chastening hand upon us in mercy, as a father chasteneth his children whom he loveth, it has also pleased Him to give us the means to remedy and alleviate many of our infirmities and sorrows. The proper use of these means (when laid before us) becomes, indeed, a part of our responsibility in this scene of probation, as also our inactivity if we give way to hopelessness and morbid melancholy.

CHAPTER III.

ON THE TREATMENT OF STAMMERING.

Remedies divisible into moral and physical—some cases require one more than the other.—On physical remedies: 1. Inflation of lungs; 2. Dr. Arnott's plan and stream of sound; 3. Omitting letters; 4. Freedom of lower jaw; 5. On tricks; 6. On reading and recitation; 7. On elocution.—On moral remedies, and restoring the disturbed equilibrium between the moral and physical energies required to effect speech.—On diminishing the undue preponderance of the moral influences by, 1. Abstraction of mind from stammering; 2. Not unnecessarily exciting mental emotion; 3. Eluding sources of mental emotion; 4. On raising physical energies by improved health and invigorating associations.—Concluding remarks on viewing the mind as a collection of minute particles which are to be gradually improved and set right.

Treatment divided into physical and moral, applicable as either characteristic predominates in the affection.—In entering on the subject of treatment, I must at once draw a line between physical and moral remedies, and say that in proportion as the sufferer partakes of the characteristics of the continued class, in that proportion do physical remedies suit his case; while moral means are more adapted to the intermittent.

I have already explained some of the best physical remedies when speaking of the cures attempted by different individuals, so that what I particularly have to say on the subject of treatment will be of a mental character: before I go, however, into this most interesting subject, I would repeat in some degree what I have said about physical remedies, by endeavouring to make a short summary of their relative value.

On physical remedies, both scientific ones and others.—I think it right for any stammerer to take advantage of *any* artificial means by which spasmodic utterance may be warded off for the moment; but these artificial means do not all of them stand on the same basis; some of them are founded on scientific research, while others would be most rightly termed successful tricks (inflation of the lungs, the use of the sound *er*, &c. &c. belong to the former class). For the use of the former there is no occasion for any apology, they are based on the visible defects of stammerers; but to the ordinary reader, for the habit of tricks unfounded on rational deduction, there is need of explanation. People generally esteem a trick a bad habit, and they would say it was wrong to eradicate one bad habit by another: my answer to this argument is, you are right, if stammering was simply a trick or bad habit, or if the adopted habit was as bad as the one avoided; but stammering, as I have already shown, has a deeper origin than this; and anything which can really and successfully relieve the mind from this incubus is worthy of employment. But in urging the adoption of any physical means, I must premise the power of adopting them. I must suppose that the person is morally able to look in some degree upon his affection as an objective phenomenon, and to handle it as he would a thing foreign to himself.

Inflation of lungs.—If he has this moral mastery, I would strongly recommend him to inflate his lungs* well before he

* For ordinary breathing only a certain volume of inspired air is necessary, and the enlargement of the chest on inspiration may be termed an involuntary or simply reflex action (depending only on the medulla oblongata); for though the will can restrain it for a short time, it cannot be said to put it in motion, as unconscious animals still breathe. But for speaking there should be added an extra degree of inspiration (manifested just before speech by a gentle raising of the shoulders, and increased raising of the sides of the thorax,) which is evidently a voluntary act, though the agent may be unconscious of it if we view the act by itself, and apart from the general voluntary effort of speech. By this extra raising of the ribs, &c., a greater power is obtained over the pecu-

begins to speak; let him inflate them too much rather than not inflate them enough; the rush of the expiratory act in this case will drive past many obstacles which a moderate inflation would not do. Observe the conduct of an ordinary person speaking under great excitement of mind from terror, anxiety, or any other cause which makes speech very important: he inflates his lungs most fully, and his voice bursts out in a sort of violent sob. What is the rationale of this? He does it unconsciously, but surely it is because he feels a sort of dread lest he should not fulfil his object, and natural instinct comes to his rescue, and thus makes doubly sure the utterance that is so important. There is no more conscious intention in this act than there is where a man does the same thing when about to plunge into a river head foremost: instinct makes him take a deep inspiration, and well for him it does so, for by this means he unconsciously ensures his rapid ascent to the surface again, the lungs being inflated acting as a buoy to the body. Thus, then, what the ordinary person, under extraordinary excitement, instinctively does, the stammerer may employ consciously with great advantage. I should not, however, recommend its excessive use, as it may ultimately hurt the texture of the lungs, but let care be taken always to inflate the lungs sufficiently, and, in fact, as ordinary people do, and, on extraordinary occasions of hesitation or inclination to it, a larger inspiration may be taken.

Dr. Arnott's remedy, and the stream of sound.—As an auxiliary to breaking through a spasm of the glottis, Dr. Arnott's

liar expiration requisite for speech, which is termed a holding breath, in opposition to what is called an exhausting breath, or the expiration of breathing, sighing, and long notes in singing. Ordinary breathing, in full-chested persons, is chiefly performed by the depressing and raising up of the diaphragm; but the raising of the sides of the thorax as well is necessary for good fluent speaking, such as we see in a short-winded emphysematous person in ordinary breathing. Now the will has a much stronger power over the muscles of the walls of the thorax than over the diaphragm, or floor of the thorax; therefore the will has more control over a holding or speech breath than over an ordinary respiration.

system of *er* is constantly most important; I should say, however, that it is more likely to be useful in colloquy than in reading, as conversation is more prone to interruption, and there is more apology there for these slight interruptions to the proper sounds. It would be very painful to a person to be constantly inserting this expiratory act in reading, though he may use it in an off-hand easy manner in talking; and we must ever remember that the probability of success in any of these methods depends very much on their not being very conspicuous, and thus alarming the stammerer's already morbidly sensitive *amour propre*. In *reading* I should recommend some other of the means mentioned in the first part of this essay, which are of the same nature as Dr. Arnott's *er*, and yet more suited to the monotony of reading; such as doubling vocal sounds as you go along (even doubling them in idea will often do), speaking in a drawling half-singing or spouting manner, dwelling on vowels much, and sliding over articulations as much as possible; in fact, gradually getting into a monotonous fluent stream of sound something like the chaunting manner of reading prayer, in a cathedral. In using Dr. Arnott's *er* sound in colloquy, I must caution the stammerer in the method of using it: the intended words must slip out immediately after this sound; it is of no use for a person to speak thus—"er - - - when do you expect your master home?" he should, when wishing to take advantage of this little auxiliary, say—"er when do you expect y'r master home?" or, if necessitated, go on thus: "er er er when do you expect:" if he does not take care of this, the glottis closes down after his *er*, and the work has to be performed over again. Neither this method, however, nor any other, should be persisted in at times when it is not immediately successful, for if it is, it loses its value, and another form of hesitation of speech may easily be raised in the place of the one attempted to be cured.

On omitting obnoxious letters.—Slipping over, or perhaps

wholly omitting obnoxious letters, is a very useful occasional assistant; the attention should, above all things, never be allowed to dwell upon any obnoxious word or letter; if a person cannot resist thinking of it, let him think only with the intention of omitting it; let him do almost any thing rather than raise a spectral apparition before his morbid fancy.

On freedom of the lower jaw.—Another method, though often of secondary importance, is to keep the mouth well open while speaking, and thus give free play to the tongue. Many stammerers, owing to their dread of convulsive action of this part, will hardly open their mouth, and thus their tongue is, as it were, shut close in a box, when it ought to have room to play about; the lower jaw, also, should be kept wagging (to use a vulgar expression), for this will give volubility to speech, and stammerers, from dread of spasm, are inclined to keep it too rigid. Observe the shadow of your profile on the wall, as far as you can, while talking fluently, and you will instantly observe what excessive freedom of motion there is, whereas all will be rigid and acting spasmodically in the stammerer. I need not say here that I reprobate the employment of any of those appliances to keep the mouth open which stammering doctors employ, for these (besides being only occasionally used, and their influence neutralized by the feeling the want of them when not used) necessarily render rigid the jaw.

On tricks or artifices to avoid spasmodic speech.—There are, however, besides these scientific remedies, many others which deserve no better name than happy tricks: if, however, the stammerer has employed them, and found them successful, by all means let him continue them: let him do anything which will continue pleasant associations. Some of these, too, are more or less based on sound principle; such, for example, as squeezing the back of a chair or anything at hand while speaking, for in doing this the stammerer not only a little diverts his attention, but also some of his nervous energy is employed on

the chair, and does not wholly fall on the frail organism of speech, where the more it concentrates the more it paralyses.

There are other tricks, however, whose success seems to depend simply on some imaginary association. A stammerer, for instance, will make a little grunting sound before he speaks, and feel that he can then speak fluently: this sound is not on the principle of opening the glottis, for, if accurately observed, the stammerer lets the glottis close after using it, and before he utters his sentence; the sentence does not flow from it, but there is a little interval: the rationale of such a trick may be, that the person intending to speak finds some relief by thus calling and fixing the attention of his auditor before he addresses him. Others, again, will find relief by holding a handkerchief before their mouth while speaking, by trying to imitate some other speaker, by adopting some position of the body, &c. &c. About all such contrivances I would say, use them while they continue to be efficacious, but do not depend on them too much.

Besides the employment of such physical auxiliaries as I have here mentioned, some benefit may arise by forming the habit of reading aloud alone, or before those whose presence causes no uneasiness. This would be of little use if only done occasionally, or with the view of gaining satisfaction from being able so to do, because the fact of being able to read alone is, I fear, little assistance towards being able to read when nervous; but a continued system of good utterance will often act beneficially on account of its being habitual. I do not place much reliance on this mode unless regularly persisted in; for it is remarkable to observe how, immediately on the entrance of any stranger, a stammerer, though reading fluently, will instantly fall back upon convulsive speech; but, on the other hand, I have observed that sometimes the force of the associations, acquired by very long good reading, has been able to overcome this inclination; and perhaps the only observable sign of distress on

the intrusion of the stranger has been a slight quivering of the voice. I shall not revert in any detail to elocutionist plans, as my judgment is against them generally, for the class of stammerers I am now addressing. What I have already said on the point is sufficient; namely, that in proportion to the power a man may have of making his affection an objective phenomenon, over which he feels complete control, in that proportion may such remedies be useful; and hints taken from the elocutionist may at times be useful even to the most nervous stammerer. Generally speaking, I fear these remedies more than I trust them.

Such are the different physical remedies that I have to offer for the stammerer's consideration; and so far as they go, and when it is possible to use them with success, they are of the greatest value. But I now come to speak of remedies which have been hitherto but too little considered; namely, those of a moral nature, by which the equilibrium between the moral and physical powers of the stammerer may be assisted towards its normal position.

Remedies against the disturbance of equilibrium between the moral and physical influences which affect speech.—When nature acts properly there always exists a happy equilibrium between the several powers at work, the disturbance of which, in morals as well as physics, is the herald of abnormal action. Now, in any way that we may put the original causes of stammering enumerated above, we find that of the two great complements essential to effect speech—namely, mental emotion and physical action—the former is in excess, and the latter overpowered by the former. This is the case in the continued stammerer, where we imagine a deficiency of motor nervous power, as much as in the intermittent, where we presuppose absolute excess of mental emotion. Again, in the stammerer generally there is a disturbance of equilibrium between the mental phenomena of the reason and imagination themselves;

and the excess of the latter over the former very much tends to aggravate this affection. This excess, indeed, is not to be wondered at, for the nature of the affection is so subtle and mysterious, and so little understood, that the ordinary observer fails to lay hold of it with his reasoning faculties, and it is consequently left as a prey for the imagination to feed upon and propagate. For example, the stammerer, when hesitation begins, too often does not check it with a few wholesome reflections: such as, "I know there is something wrong here, but thinking of it will only increase it; and being a little reckless of it will certainly render it less potent." Instead of this, he generally increases the hesitation very much by anxious and unreasonable thoughts on the subject, and drives what might be a slight spasmodic action, if left to itself, into a violent one.

The proper disposal of this disturbed equilibrium will now form the subject of what I have to say on the moral treatment of stammering; and I propose to divide the matter into the following heads, which, though they may not at first sight appear to promise much active and positive relief, would in practice be soon found to bear much fruit.

Means by which to remedy the undue preponderance of moral influences.—I. *To reduce mental emotion* by a daily, hourly, habit of abstracting the mind from the subject of stammering, both while speaking and at other times.

II. Not to excite mental emotion by attempting unnecessarily to read or speak, when the moral sense assures any one of not being able to accomplish these things without great distress.

III. *To elude mental emotion* by taking advantage of any little artifice to escape from stammering, *so long as the artifice continues to be a successful one,* and not to listen to the observations of ignorant people on this head.

IV. To strengthen physical power by any means which conduce to the general health.

1. *To abstract the mind from the thought "I stammer."*—

I will here make a few general observations on the power both of mental emotion and mental abstraction.

On the power of mental emotion.—No one can believe or imagine the power that mental emotion has over physical function until they have either themselves experienced it or been in the habit of witnessing it in others. I need hardly mention the extraordinary and protean derangement of function often manifested by hysterical persons, and that where no bodily ailment at all tantamount to such symptoms really exists: persons who, from no assignable cause, have been bed-ridden for years, will, on some violent mental emotion, rise from their beds, and lose all trace of their previous infirmity. It is true that sometimes the instrument of this resuscitation has been nothing more dignified than the sudden effusion of a pailful of water on the face and shoulders; and thus these cures may be exposed to the charge rather of a perverted will than a real loss of power. But this argument will not hold good in many cases. Let us take the example of the effect of mental emotion on a West Indian slave when he has been consigned to death on a certain fixed day, by his magician the Obey-man. It is well known that from the date of the prophecy he begins to pine away, the functions of his body gradually cease their proper work, and on the day of his doom, he dies from the sheer effect on his imagination. Witness the effect of the mind on the secretions of the body in the epidemic we are at present labouring under: few predisposing causes are thought to have a greater effect in rendering the body susceptible of cholera than an over-wrought dread of its approach. A school-boy well knows that the dread of an examination will frequently do more for him than the best drugs of the apothecary, and in this happy instance the general result is often a good clarifying of his intellectual functions when the time of trial arrives. But the effect of mental emotion on the special senses of sight and hearing is well known by most people. Excess of fear will often so deaden the power of vision that a person cannot recognise the characters of a

book or even the persons about him; while, on the other hand, it will render the auditory nerve most peculiarly and supernaturally sensitive. But, to go further than these functional derangements, those who are best calculated to form an opinion believe that mental anxiety has even led to *structural* lesion of the heart, and abnormal formations have thus become the result of the mere dread of them.

On the power of mental abstraction generally.—On the other hand, in proof of the power of mental abstraction, there are numerous instances to prove complete unconsciousness of bodily ailments and injuries. Men whose feelings have been highly wrought upon have been known to profess complete exemption from bodily suffering while enduring the most barbarous inflictions. Insane people, when in a state of phrensy, and when their minds are wholly occupied with the phantasmagoria of their delusion, seem to be, and really are, quite insensible to what would otherwise be severe pain; they bear cold and heat in a most astonishing manner, and seem proof against the vicissitudes to which others are subject. If we go to the lower animals, some of them, such as the frog, are known to be, at certain periods of excitement of their nervous system, so insensible to pain that you may cut off their limbs without their showing any of the ordinary signs of suffering.

Examples of the power of the imagination in stammering.—Now, though it requires no proof that mental emotion is peculiarly active in stammering, yet a few examples of its power may not be out of place here. Witness the effect of certain positions: such as the being obliged to repeat a thing the second time, speaking to servants at street-doors, going messages, the first half hour at a dinner-party, arguments of all sorts, having to read out anything of a person's own writing, &c. &c.: why are these things so peculiarly disagreeable, except that the imagination has dwelt upon them, and the mind has worked up a difficulty? When a person has to repeat a thing a second time, he has no escape, he must speak; though the

first observation was voluntary, now he is under the necessity of speaking, or of looking like a fool. When he has knocked at a door and the servant appears, or when he has to deliver a message, he must speak,—escape is again impossible: at a dinner-party, too, some jargon or other is expected of the most silly, and words, windy words, are not readily at his disposal. I need hardly give any reason for stammering in argument, or in reading one's own composition, when the desire to appear right in the eyes of the adversary or the listener so much agitates the speaker. Again, let a stammerer try to imitate some peculiar mode of speaking, and he will in general utter fluently in this peculiar mode, so long as his mind is abstracted to the mode and from his ordinary associations. I have known, however, people who, having a good and perfect enunciation, have formed a dread of one or two particular words, and these words they can never utter fluently: this, though a very slight affection, is of the same nature as the most convulsed stammering. Lastly, as an example of the power of the imagination, I would ask stammerers if they do not know that with certain people, and in certain scenes, their affection is always worse; and on the other hand, that the society of some pleasant friend, the presence of some retired spots, are almost hallowed by the sense of fluency of speech, which returns as often as they are enjoyed.

On the importance, therefore, of mental abstraction in stammering.—What I have now said will show the power of mental emotion, and the necessity of mental abstraction* in

* I will narrate an anecdote here to show how strongly the power of abstracting the mind from stammering must influence the affection. A stammerer was one day utterly unable from agitation to speak or read with any degree of comfort. His instructor said to him, imagine yourself to be a barrel organ, and as you read, drawl out your words to the chime of that instrument: fluency of speech was immediately the result. As long as the idea of imitating the barrel organ remained his mind was abstracted by the novelty of the idea, and spasmodic utterance ceased. The supporter of periodicity in speaking (as a cure for stammering) may

stammering; and I may say that I believe this to be the most important remedy in the case of very many stammerers. It is one, however, which to the casual observer seems most easy, but which to many stammerers appears most difficult, if not almost insurmountable; for they say, How can we cease to think of and remember that which is most pressing upon our attention at every turn in life? To the stammerer, then, I will now address myself.

Hints by which to acquire this power.—I grant that if the mind is not filled with something else, it will revert to that subject which is most pressing upon it; but it is a law of ethics that the mind cannot be filled with two impressions at once (at least such impressions as will occupy the attention); moreover, a sane mind has generally the power, even under the most trying circumstances, of altering its thoughts and driving them into channels according to the dictates of the will—the great difficulty being in thoroughly acquiring the will to do this, which is often an effort of painful struggle. The stammerer should, while speaking, gradually acquire the habit of engrossing himself with the subject on which he is dilating, rather than on the mode in which he is doing it; he should be encouraged to this effort by the reflection that *dwelling on the former must do good, dwelling on the latter must do harm;* he had better begin this on the principle of making the best of a bad job, and he will soon make the job better. I would say, then, to the person thus affected,—While at leisure and not speaking, do not ever let your mind dwell upon the subject; have recourse to anything rather than this. If you have not sufficient regular occupation for your time, form some which will occupy thoroughly your leisure hours. Are you an

avail himself of this anecdote as a means of proving the truth of this scheme; but I have reason to know that the person concerned believes it would have equally availed if he had been simply told to "imitate some peculiar speaker, or, indeed, do anything which would have fixed his attention on anything besides the ordinary associations of his speech."

artist, a writer, a musician? Have you a mechanical taste? If so, occupy yourself in one of these delightful avocations; go and dig rather than sit and think; employ your mind on matters unconnected with speech; make it plain to yourself that you may have much happiness in life, and be of much use to your fellow-creatures, without a fluent power of speech; and that the tongue is a little member often much better at rest than in motion. Comfort your moral nature with such wholesome truths; call to mind the fact that, though perhaps retarded in the pursuit of some objects of pleasure, you are released from some responsibilities; you are also kept out of some temptations to evil; but, above all things, do not act the part of a faint-hearted man, and sit down to mourn over what cannot be helped and may be mended: and, should this sound like cold ordinary philosophy, say to yourself (what will immediately relieve you if put in practice), the more I think of this the more it will master me; the less I think of it the more I shall master it.

Again, when in speaking you stammer badly, ask yourself the question, Is not this the result of having given way to thinking about it? The answer, if honest, will generally be, Yes. When you have had most fluent speech, ask yourself, Is not this owing to my mind having been free at this particular time? and I feel almost sure the answer will be in the affirmative. If all this is true, consider that the thought, I shall stammer, rather than the stammering itself, is the thing to be avoided: by this means you will gain a step for the future, and a step gained is a great thing, for the whole matter cannot be lost sight of at once, because its presence will demand attention in the inverse proportion to the power of abstraction of mind in the individual. If abstraction of mind on an occasion has not assisted you much, at least put the thing in its true light: ask yourself,—If stammering were a good and great thing, if great men thought it fine to stammer, if it became the fashion, as much as red hair was once in fashion, or the drawl-

ing pedantry of euphuism, should I not instantly feel much relieved from the present *necessity* of stammering? and I think your answer would be, Yes.

Again, *do not confound success in life with success in speaking*. I mention this particularly, as it is a thing which most people who do not stammer are prone to do,—*à fortiori* the stammerer: for example, let a person have a glib tongue, and in ordinary society he thinks himself successful, and is thought so by others, particularly by little thinkers; witness the volubility of lawyers in society, and see how soon they will put down much better men than themselves. On the other hand, let a person be slow of speech and of expressing his thoughts, and he is regarded as heavy and of second-rate powers, and it is not until some great occasions (few and far between) occur, that the real powers of the man are put to the test, and the superiority of the latter acknowledged. Readiness of speech certainly has the advantage of making a man's acquirements *ready money* and marketable, and *so far* this is a real genuine talent, and not to be despised; but the truth is, it is very far overrated.

I will conclude these observations to the stammerer by a few addressed to those about him, and particularly to the guardians of children. All scenes where speech is obligatory ought to be avoided: for example, I cannot too strongly reprehend the conduct of parents who send children who stammer badly to school, where, amidst the rest of the class, they are obliged to exhibit daily,—a scene which is torture to those who have very sensitive minds. You may see the rush of blood to the face of the boy when called upon to construe: he may see the meaning of his lesson plainly, and yet be utterly unable to show his knowledge of it; he may be disgraced on account of this inability (for what public master can enter into all the internal emotions which cause paralysis of speech in one of a class of perhaps fifty boys); he will feel a cold trickle at his head which tells him he is unlike others, and has no one to

sympathise with him; he will care little for the undeserved punishment, but few can know how much for the source of all this, and of trials to come, to what amount he knows not. Scenes and reminiscences such as these may easily confirm an impediment in the speech. When school days are passed, a profession ought to be sought for where fluent speech is comparatively unimportant, and the stammerer be thus impressed with the conviction that he may become a happy and useful member of society. From the cradle to the grave an affectionate parent should seek to shelter such a child with all the influence and power at his command, and to a far greater extent than his other children, inasmuch as he requires often this support at periods when others may be comparatively independent. And taking advantage of the liberty allowed to a writer in his concluding remarks, I would say, in few cases does *love* shine with more welcome radiance than on the stammerer. The person thus affected knows well the magic influence of the tender glance which beams upon a beloved face; he appreciates with a keenness (perhaps unknown to others who are less dependent) the gentle thought which anticipates for him a scene of difficulty, the tender counsel which places in a truer light the subject of his own sensitive reflections. Of the mother in childhood, and the wife in manhood, the nervous stammerer must often confess, with a perhaps too tender memory, that her presence is to him the emblem of life and light, a thing once seen and never forgotten, a star of hope shining kindly for him, through many an hour of darkness.

2. Not to excite mental emotion by attempting *unnecessarily* to speak or read, when the moral sense assures a person that he cannot do so without great and unusual distress.

I mean by this, do not wantonly try the powers of speech in any extraordinary way. A person should not think that accident or any other circumstance can help him on with speech when he feels conscious he has no prospect of comfortable speech, and it is much better for him rather to be silent than

to be much convulsed in speech. When I say this, the answer of many will be, "then I must never speak at all, for I am generally somewhat convulsed." My reply is, what I wish to insist upon is comparative and not absolute; as every stammerer feels that he can speak better, and comparatively with greater comfort, under some circumstances than others, so let him not try to do those things which are difficult, unless he is compelled by circumstances. I lay the greater stress on this rule, because stammerers, like all other sufferers from nervous affections, are inclined to argue in a morbid manner. They would say, "If I cannot speak now, I feel I shall never be able to speak again." Voluntary silence from fear of stammering seems instinctively to be an admission of impossibility of speech, and this drives them to speak at all hazards: thus, in order to escape from this groundless dread, they not only resolve to continue convulsive speech, equally distressing to themselves and others, but, in fact, they often take up a larger share of the conversation than they ordinarily would if it was not for this morbid fear. Persons of a mobile* or irritable temperament, and suffering from other mental affections, are liable to this same false mode of reasoning. How often does the person who loves ardently, feel, when slighted, "I cannot possibly ever so love again; the pictures of love have vanished from my mind, how can they be replaced?" and yet they come again with all their sweetness when the impulse to revenge for the slight has gone away. Men should remember that circumstances will bring back again to them powers and feelings which they feel to be utterly gone, and think can never return. The manifest cause of all this false reason-

* Dr. Alison remarks, in his Pathology of Spasmodic Diseases, p. 711, what is well known by all well informed medical men, "One modification of this nervous temperament very frequently connected with its other marks is the disposition of the mind to dwell upon all uneasy sensations, and anticipate danger from them, which so frequently attend all diseases of which such sensations are an essential constituent."

ing in nervous and mental affections is, that people can judge much less accurately about nervous complaints in themselves than about the same in others, or other diseases in themselves, from the infirmity itself being in the nervous system. We could much more easily appreciate a complaint in our lungs or heart, because the brain (the instrument of the mind) views them objectively to a certain degree, and is not itself subject to the affection; whereas if the complaint is in the nervous system itself, we should, in judging accurately of the affection, make the nervous system to act objectively and subjectively at the same moment, which is at best a difficult task.

3. To elude mental emotion by taking advantage of any little artifice to escape from stammering, so long as the artifice is a successful one, and not to listen to the observations of ignorant people on this head.

The description of artifices which may be employed has already been thoroughly detailed under the head of Physical Remedies. My only object in referring to it again is to place a little more strongly before the reader the advantage of this means, viewed simply as a mental remedy. Some stammerers have been thoroughly frightened out of using little artifices by well-meaning friends who have ignorantly thought them prejudicial. Indeed, I believe stammerers have carried this dread so far, that sometimes, when a stammerer has got half way through his sentence, almost unexpectedly, by some little coincidence or diversion, he thinks it necessary to begin his sentence over again, and will not leave well alone: in proof of this I can only appeal to the experience of stammerers. The stammerer is very hard to be convinced that the chief part of his affection is an *ignis fatuus* which arises from a momentary nervous abnormal impulse, which has often no more solid existence than a thought (in saying this I, of course, allude chiefly to the class of intermittent stammerers, and where we suppose motor power equal to ordinary impulse); the effect of the strength of the spasm upon his morbidly sensitive system is so

great that it would be a wonder if he could view it in any other light than that of a monster of disease which requires most heroic remedies; he can hardly believe for a moment that a very trifling act or diversion can really contend with such a giant. Stammering is to him a terrible affection, besetting him at every turn; the remedy, as viewed by unreasoning unscientific men, is a trifling matter. I trust, however, that some hints which I may have let fall in the course of this paper will assist the stammerer to view more truly and with less mystery this, to him, mysterious affection.

4. To strengthen physical power by any means which conduce to the general health.

By improving health the body generally is rendered a more capable machine for the operations of the mind; for not only are the physical powers raised and braced up to a proper level, but by this means also exaggerated mental energies are made to run in a definite channel, and are toned down to a due level. For, as I have said before, the exhibition of exaggerated indefinite nervous or mental energy is too often a sign of infirmity or disease rather than of vigour; for (to take an extreme case) who would call the vivid pictures formed by the mind in delirium, power of thought, or the outbursts of nervous energy exhibited by lunatics, vigour of mind? These things may ape the appearance of strength, but are rather coincident with disease, weakness, and depression. But besides this general improvement we may also suppose that by stronger health the weak motor fibres connected with speech themselves receive accessions of strength, and a consequent greater power and certainty in resisting oppression from moral influences: the comparative ease with which a stammerer in good health frees himself from a spasm of speech, and the incapability of doing this which he evinces in weak health, corroborate this idea. But I appeal to the stammerer's experience, and ask him, does he not know well how mitigated this affection becomes when his heart's blood feels alive and warm within him in the glow of healthy exercise;

when his animal spirits are high, and his body feels in tone for any adventure and interest in life; and does he not remember with pain the aggravated condition of the affection when, in cold and weariness, he feels physically unequal to any occupation; when his mind, sickened by outward circumstances, begins to prey upon itself? In the first instance he feels the master of all things around him, and disdains fear; in the second he feels himself to be the victim of the observation of others, and hardly fit to continue the struggle of life. Moral energy is intimately connected with physical energy; it is, therefore, a great mistake to hope to be able to stem the same tide of moral difficulties, when physically depressed, that you can when physically exalted; the nervous system loses its energy when the heart beats slowly and the blood stimulates it feebly. The nervous system when depressed is liable to lie passive to external shocks, and is unable to drive them off; but when exalted it becomes active, and not only repels external shocks, but propagates, *ab interno*, fresh energies, and puts them into active force. As well might a person when fainting away expect to be able to achieve what he knows he can achieve when in the full vigour of strength, as expect to put forward equal powers when the nervous system is depressed or is exalted. But things far short of actual improvement of health will assist the nervous energies; things which we can only look upon as accessories to vigour from the effect of associations and habit. Take any example that is at hand; take a homely one, such as the effect of change of dress; compare the man in his morning-gown and slippers to the man fully equipped for adventure, and most people will confess the improvement of their moral vigour in the latter case, however absurd its origin may be. I would therefore advise the stammerer not to despise even the least alleviation from circumstances of this stamp and character, and would recommend him to attend to the minutest points of daily routine which may tend to invigorate his general system, and render him fit for the conflict with life.

It may be said that these observations are addressed particularly to the will of each individual: the stammerer is called upon to resist the natural inclination of his will, which is to succumb to his malady, and to resolve at all events to master it to the utmost. I will conclude with these reflections:—When viewing the mind as an object of moral treatment, do not, at first, look on it as a whole, but as an accumulation of atoms; begin to improve these atoms, and thus gradually form that bright and beautiful thing which the mind ought to be: put before your imagination the lighting up of an illumination, and observe how gradually the lighting of each little vessel tends to the general glorious effect; let each day be as it were the lighting of a lamp, and at last the mind will rise out of gloom into brightness. This is an illustration taken from the earth, and its course, like earthly appliances, generally is gradual. There is, however, one which comes to us from the skies, which is far more beautiful and significant, for this light is not in the little transparent cells, but coming from the centre of light, shines through the little globules, and is reflected as a bow on the clouds,—the rainbow, hallowed to all Christian minds by its associations: rain drops, as they hang above, are like dull days and a hopeless life; but when the sun shines through them they cast a reflection more beautiful than any jewelled crown; a radiance springs from them which is looked upon as the very emblem of hope and love. It is so in the physical world around us; but there is a brighter sun for our moral nature than ever shone on earthly scene, a light which, wherever it casts its heavenly ray, sheds a peace which passeth all understanding; one, too, which has illumined the rugged path and refreshed the wayworn steps of thousands before us, who are now enjoying a foretaste of its blessed consummation in the world beyond the grave.

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CORRIGENDA.

In note, page 22, after "medulla oblongata is particularly connected," *read* "ganglia of special sense," &c.; also after "memory, reason, imagination," *read* "and will;" also *for* "loses all power of will, and probably all conscious action," *read* "becomes stupified, and performs no voluntary movements."

N.B. This note (page 22) is only written to afford an idea (to a novice) of the distinct agencies of the nervous centres, and of their mode of action on one another; so that when the ultimate cause of stammering is referred to the brain, &c., the affection may not be misunderstood, and thought to involve unsoundness of mind. It is, however, very imperfect even as a sketch; and for accuracy, I must refer to any good work on human physiology.

In note, page 28, for "imitation" read "irritation;" and for "sympathier" read "sympathies."

Lest my reader should think I have made stammering too exclusively congenital, or rather, I should say, coincident with the acquisition of speech, and have not considered sufficiently the power and results of imitation in after years, I will state that I can easily believe that the first manifestations of stammering may occasionally arise from imitation as an exciting cause, even as epilepsy is said to do; but in my opinion, there would still exist the original ultimate cause of a nervous infirmity, predisposing to spasmodic affections: for I believe that thousands not predisposed may imitate and not catch the affection, whereas those who are so predisposed may catch it. Moreover, in some instances this may not shew itself in persons until the increased mental powers and anxieties consequent on increased age begin to oppress the weak nervous motor power. The fact that stammering is often much less powerful at the extremes of life, corroborates this idea. For in extreme youth, the mind has not arrived at its vigour; and in old age, the impetuosity of ideas and emotions has ceased. Of course, in cases where it can be clearly proved that stammering is not coincident with the acquisition of speech complete, some modification of the mode (which I have given in the Essay) in which the nervous motor power first shews its infirmity will be required.

Should the two statements about repeating the *er* sound, as given in pages 10 and 48, seem to contradict one another, I would say, that in the former is presumed the conscious belief on the part of the stammerer, as well as the fact when put to the proof, that repeat the sound as often as you will, the words will not flow: in the latter, the consciousness of the fact that they will and do flow after a repetition of this sound. What I wish to insist upon is, that if immediate success does not follow the use of this sound, do not go on using it for a time.